

EUTHENICS

THE SCIENCE OF CONTROLLABLE
ENVIRONMENT

ELLEN H. RICHARDS

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EUTHENICS

THE SCIENCE OF CONTROLLABLE ENVIRONMENT

A PLEA FOR BETTER
LIVING CONDITIONS AS A FIRST STEP
TOWARD HIGHER HUMAN
EFFICIENCY

The national annual unnecessary loss of capitalized
net earnings is about \$1,000,000,000.

Report on National Vitality

By ELLEN H. RICHARDS

Author of *Cost of Living Series*, *Art of Right Living*, etc.



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FOREWORD

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FOREWORD

Never has society been so clear as to its several special ends, never has so little effort been due to chance or compulsion.

Ralph Barton Perry, The Moral Economy.

NOT through chance, but through increase of scientific knowledge; not through compulsion, but through democratic idealism consciously working through common interests, will be brought about the creation of right conditions, the control of environment.

The betterment of living conditions, through conscious endeavor, for the purpose of securing efficient human beings, is what the author means by EUTHENICS.¹

“Human vitality depends upon two primary conditions—heredity and hygiene—or conditions preceding birth and conditions during life.”²

¹ Eutheneo, Εὐθηνέω (*eu*, well; *the*, root of *tithemi*, to cause). To be in a flourishing state, to abound in, to prosper.—*Demosthenes*. To be strong or vigorous.—*Herodotus*. To be vigorous in body.—*Aristotle*.

Euthenia, Εὐθηνία. Good state of the body: prosperity, good fortune, abundance.—*Herodotus*.

² Report on National Vitality, p. 49.

Eugenics deals with race improvement through heredity.

Euthenics deals with race improvement through environment.

Eugenics is hygiene for the future generations.

Euthenics is hygiene for the present generation.

Eugenics must await careful investigation.

Euthenics has immediate opportunity.

Euthenics precedes eugenics, developing better men now, and thus inevitably creating a better race of men in the future. Euthenics is the term proposed for the preliminary science on which Eugenics must be based.

This new science seeks to emphasize the immediate duty of man to better his conditions by availing himself of knowledge already at hand. As far as in him lies he must make application of this knowledge to secure his greatest efficiency under conditions which he can create or under such existing conditions as he may not be able wholly to control, but such as he may modify. The

knowledge of the causes of disease tends only to depress the average citizen rather than to arouse him to combat it. Hope of success will urge him forward, and it is the duty of lovers of mankind to show all possible ways of attaining the goal. The tendency to hopelessness retards reformation and regeneration, and the lack of belief in success holds back the wheels of progress.

Euthenics is to be developed:

1. Through sanitary science.
2. Through education.
3. Through relating science and education to life.

Students of sanitary science discover for us the laws which make for health and the prevention of disease. The laboratory has been studying conditions and causes, and now can show the way to many remedies.

A knowledge of these laws, of the means of conserving man's resources and vitality, which will result in the wealth of human energy, is more and more brought within the reach of all by various educational agencies.

The individual must estimate properly

the value of this knowledge in its application to daily life, in order to secure efficiency and the greatest happiness for himself and for the community.

Right living conditions comprise pure food and a safe water supply, a clean and disease-free atmosphere in which to live and work, proper shelter, and the adjustment of work, rest, and amusement. The attainment of these conditions calls for hearty coöperation between individual and community—effort on the part of the individual because the individual makes personality a power; effort on the part of the community because the strength of combined endeavor is required to meet all great problems.

EUTHENICS

BETTER ENVIRONMENT FOR THE HUMAN RACE

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CHAPTER I

The opportunity for betterment is real and practical, not merely academic.

Men ignore Nature's laws in their personal lives. They crave a larger measure of goodness and happiness, and yet in their choice of dwelling places, in their building of houses to live in, in their selection of food and drink, in their clothing of their bodies, in their choice of occupations and amusements, in their methods and habits of work, they disregard natural laws and impose upon themselves conditions that make their ideals of goodness and happiness impossible of attainment.

Prof. George E. Dawson, The Control of Life through Environment.

And is it, I ask, an unworthy ambition for man to set before himself to understand those eternal laws upon which his happiness, his prosperity, his very life depend? Is he to be blamed and anathematized for endeavoring to fulfill the divine injunction: "Fear God and keep His commandments, for that is the whole duty of man"? Before he can keep them, surely he must first ascertain what they are.

Adam Sedgwick. Address, Imperial College of Science and Technology, December 16, 1909. Nature, December 23, 1909, p. 228.

In my judgment, the situation is hopeful. To realize that our problems are chiefly those of environment which we in increasing measure control, to realize that, no matter how bad the environment of this generation, the next is not injured provided that it be given favorable conditions, is surely to have an optimistic view.

Carl Kelsey, Influence of Heredity and Environment upon Race Improvement. Annals of American Academy of Political and Social Science, July, 1909.



CHAPTER I

It is within the power of every living man to rid himself of every parasitic disease. *Pasteur.*

SUCH facts as the following, showing the increase in health, or rather the decrease in disease, go to prove what may be done.

Since 1882, tuberculosis has decreased forty-nine per cent; typhoid, thirty-nine per cent. Statistics in regard to heart disease and other troubles under personal control, however, show increase—kidney disease, 131 per cent; heart disease, fifty-seven per cent; apoplexy, eighty-four per cent. This means that infectious and contagious diseases, of which the State has taken cognizance and to the suppression of which it has applied known laws of science, have been brought under control, and their existence today is due only to the carelessness or the ignorance of individuals. ✓

On the other hand, such results of improper personal living as do not come under

legal control—diseases of the heart, kidneys, and general degeneration, matters of personal hygiene—have so enormously increased as in themselves to show the attitude of mind of the great mass of the people, "Let us eat and drink and be merry, what if we do die tomorrow!"

Probably not more than twenty-five per cent in any community are doing a full day's work such as they would be capable of doing if they were in perfect health. This adds to the length of the school course, to the cost of production in all directions, to increased taxation, and decreases interest in daily life.

The trouble is that the public does not *believe* in this waste which comes from being "just poorly" or "just so as to be about." It has no conception of the difference between working with a clear brain and a steady hand, and working with a dull and nerveless tool. It must be convinced of this in some way. General warnings have been ineffective, and now the appeal is being made to the American people on the basis of money loss. Thus it has been carefully esti-

mated that the average economic value of an inhabitant of the United States is \$2,900. The vital statistics of the United States for population give 85,500,000. Eighty-five million five hundred thousand multiplied by \$2,900 equals \$250,000,000,000 (minimum estimate), and this exceeds the value of *all other wealth*. The actual economic saving possible annually in this country by preventing needless deaths, needless illness, and needless fatigue is certainly far greater than \$1,500,000,000, and may be three or four times as great.

Dr. George M. Gould estimated that sickness and death in the United States cost \$3,000,000,000 annually, of which at least one-third is regarded as preventable.

From all sides comes testimony to the decrease in personal efficiency of workers of all degrees. Medical science has prolonged life, hospitals and visiting nurses have made sickness less distressful, but have also in many cases prolonged the time and increased the cost. Sanitary science aims to prevent the beginnings of sickness, and so to eliminate much of the expense.

The discovery that the mosquito is the carrying agent for the yellow fever germ has saved more lives annually than were lost in the Cuban War. In the yellow fever epidemic of 1872, the loss to the country was not less than \$100,000,000 in gold.

"With our present population there are always about 3,000,000 persons in the United States on the sick list. . . . By means of Farr's table, we may calculate that very close to a third, or 1,000,000 persons, are in the working period of life. Assuming that average earnings in the working period are \$700, and that only three-fourths of the 1,000,000 potential workers would be occupied, we find over \$500,000,000 as the minimum loss of earnings.

"The cost of medical attendance, medicine and nursing, etc., is conjectured by Dr. Biggs in New York to be from \$1.50 each per day for the consumptive poor to a greater amount for other diseases and classes. Applying this to the 3,000,000 years of illness annually experienced, we have \$1,500,000,000 as the minimum annual cost of this kind.

"The statistics of the Commissioner of Labor show that the expenditure for illness and death amounts to twenty-seven dollars per family per annum. This is for workmen's families only. But even this figure, if applied to the 17,000,000 families of the United States, would make the total bill caring for illness and death \$460,000,000. The true cost may well be more than twice this sum. Certainly the estimate is more than safe, and is only one-third of the sum obtained by using Dr. Biggs's estimate. The sum of the costs of illness, including loss of wages and cost of care, is thus \$460,000,000 plus \$500,000,000 equals \$960,000,000. . . . At least three-quarters of the costs are preventable."¹

The cost of certain preventable diseases a year is estimated by various authorities as:

Tuberculosis	\$1,000,000,000
Typhoid	250,000,000
Malaria	100,000,000
Other insect diseases	100,000,000

A hopeful sign of awakening is the endeavor by life insurance companies to bring

¹ Report on National Vitality, p. 119.

home to the people the possibilities of race betterment. One company sends out among its policy holders trained nurses, who give plain talks on health subjects and offer practical suggestions as to hygienic living. This, to be sure, is on the economic basis of money saving, but if that is the only thing that will appeal to the people is it not wise to seize upon it as a lever to lift the standard of well-being?

The possibility of saving the enormous sums that are lost by reason of premature deaths was an alluring subject to the insurance men. It gave to the world what, up to that time, it had lacked—a body of powerful men who recognized that they had a financial interest in preventing the needless death of men and women.

A table has been prepared showing that if insurance companies were to expend \$200,000 a year for the purely commercial object of reducing their death losses, and should thereby decrease them only twelve one-hundredths of one per cent, they would save enough to cover the expense.

“If such a plan as this were placed on

a purely scientific basis and carried out by good business methods, and all the companies pulled together for the common good, I should expect a decrease in death claims of more than one per cent; and a decrease in the death claims of one per cent would mean that the companies would save more than eight times as much as they expended, or would make a net saving of more than seven times the expense, which would be about a million and a half dollars a year.”¹

“While it would be impossible to state in general terms how rich a return lies ready for public or private investments in good health, these examples (life insurance) show that the rate of this return is quite beyond the dreams of avarice. Were it possible for the public to realize this fact, motives both of economy and of humanity would dictate immediate and generous expenditure of public moneys for improving the air we breathe, the water we drink, the food we eat, as well as for eliminating the

¹ Hiram J. Messenger, Travelers Insurance Co., Hartford, Conn.

dangers of life and limb which now surround us.”¹

Undoubtedly a moral force is to be strengthened by spreading the biological lesson that man cannot live to himself alone, but that his acts or failure to act affect a large number of his fellowmen. Also, a stimulus to personal ambition is to be supplied in the suggestion of better health and consequently more money to spend as a result.

Civic pride and private gain will be brought into the endeavor to show man that to understand himself, to exercise the same control over his activities that he uses over his machines, is to double his capacity, not only for work, but for pleasure. This control is now possible through the application of recently confirmed scientific knowledge as to man's environment.

It is the aim of this book to arouse the thinking portion of the community to the opportunity of the present moment for inculcating such standards of living as shall tend to the increase of health and happiness.

¹ Report on National Vitality, p. 123.

To the women of America has come an opportunity to put their education, their power of detailed work, and any initiative they may possess at the service of the State.

Faith, Hope, and Courage may be taken as the three potent watchwords of the New Crusade. There is a real contagion of ideas as well as of disease germs.

CHAPTER II

Individual effort is needed to improve individual conditions. Home and habits of living. Good habits pay in economy of time and force.

The hope is springing up in some minds that the entire problem of human regeneration will be much simplified when men shall have learned more fully the nature of their own lives, the nature of the physical world that environs them, and the interaction between this physical world and the spirit of man which is set to subdue it.

Prof. George E. Dawson, The Control of Life through Environment.

We create the evil as well as the good. Nature is impersonal. To an increasing degree *man* determines. *Carl Kelsey.*

The only certain remedy for any disease is man's own vital power.

Today only an exceptional man, almost a genius, learns to modify his habits and his life to his environment and to triumph over his surroundings, his appetites, and the absurd dictates of fashion.

Richard Cole Newton, M.D., How Shall the Destructive Tendencies of Modern Life Be Met and Overcome?

We have certain inherent capacities as to bodily strength, length of life, etc., but it lies largely with ourselves to adopt a mode of life which may make an actual difference in height, weight, and physical strength and intellectual capacity.

E. H. Richards, Sanitation in Daily Life.

There are two recognized ways of improving the quality of human beings: one by giving them a better heredity — starting them in life with a stronger heart, better digestion, steadier nerves; the other by so combining the factors of daily life that even a weak heart may grow strong, a poor digestion may become good, and frayed nerves gain steadiness.

E. H. Richards, The Art of Right Living.

CHAPTER II

FAITH

THE relation of environment to man's efficiency is a vital consideration: how far it is responsible for his character, his views, and his health; what special elements in the environment are most potent and what are the most readily controlled, provided sufficient knowledge can be gained of the forces and conditions to be used.

To this end home life—in its relations to the child, the adult, and the community—is considered in connection with the effect on the home of the influences outside it, and the reaction of each on the other. These relations and influences are partly physical and material, partly ethical and psychical.

The right of the child is protection, and it is the responsibility of the adult—parent, teacher, or state officer—to secure this protection.

The knowledge that investigators are gaining in the laboratory and are trying to

give to the community must be accepted and applied by the individual. How is the individual, discouraged by sickness and hardship, to know that things are awry or that they can be set more nearly straight? How can he know that he is responsible for his limitations? Why should he suppose that he need not be eternally a slave to environment? How can he realize that "health promotes efficiency by producing more energy and leaving it all free for useful purposes?" A few enlightened souls recognize the tendency of environment to kick the man that is down; to be subservient to the man of bodily and mental vigor, of keen understanding and human insight, but the majority must be led to believe these scientific principles.

Again and again scientists and humanitarians must return to the attack, for individual carelessness becomes community menace, and "line upon line and precept upon precept" they must present their knowledge in language that shall attract and hold the attention and fancy. So the work and discoveries of Metchnikoff have

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gained credence because the disciple who described them had the ability to impress on his audience in a convincing fashion the one fact that made a strong appeal—the possibility of long life. If those who are zealous for any movement would study the psychology of advertising and speak as forcefully as the legitimate advertiser, they would be more persuasive and successful.

When an idea has won in a certain circle, it quickly spreads to the other members, thence to active communities. So the universal law of imitation may be the greatest help in the spread of ideas. The individual eats a certain food because his neighbor does. Boston determines to make an effort for a better city because Chicago has felt the stirrings of civic pride.

A gifted individual with a deep sense of the need of his community sees an ideal condition, which by his thought becomes a possibility. These beliefs he shares with a few choice spirits till the circle has widened. The new ideas come to the notice of the city or the town officials, new means are adopted of educating the whole commu-

nity, and, if necessary, legal measures are passed. But the new means to betterment must be applied by the individual. Beginning with the exceptional individual and ending with the average individual, the perfect circle is rounded out.

✓ The leaders must show convincingly that the laws which they have discovered may be applied to daily life, but the *individual himself* must adopt them. When he has been saturated with knowledge, his inertia will break down, his hopelessness give way to its very antithesis, a strong hope for a better future. Every known method must be used by the laboratory to develop this hope into a belief wide enough to reach all members of every section of the community and deep enough to become a vital working principle. Only through a belief strong enough to ride over unbelief and inertia, a belief in the value of science for personal life strong enough to make a wise choice possible, can the will to obtain a better environment be developed. The belief in better things must be thoroughly impressed on the individual mind. Each individual

must understand that it does affect *him*, that it is *his* concern, that *he* must give heed to his environment. Then he may have the will and make the effort to combat dangers to body and mind.

Today, belief is much more difficult than ever before because the dangers are unseen and insidious, and our enemies do not generally make an appeal through the senses of sight and hearing. But the dangers to modern life are no less than in the days of the pioneers, when a stockade was built as a defense from the Indians. We have no standards for safety. Our enemies are no longer Indians and wild animals. Those were the days of big things. Today is the day of the infinitely little. To see our cruellest enemies, we must use the microscope. Of all our dangers, that of uncleanness leads—uncleanness of food and water and air—uncleanness due to unsanitary production and storage, to exposure to street dust, or to cooking and serving of food in unclean vessels. Such conditions result not only in actual disease, but in lowered vitality and lessened work power.

Lack of knowledge on the part of some, heedlessness on the part of others who should be intelligent enough to interpret such conditions, are responsible for their continuance. A few timely suggestions will accomplish more in remedying many evils than any amount of attempted legal enforcement. The very fact of a law makes many persons defy it. They feel justified in showing their wit by outwitting the law's representatives. Many of our newer citizens have come to us from the protection (?) of a personal authority that they can see and feel. In this country of ours, we have taken away that binding regard for authority, and we must as far as possible lead rather than compel.

It is, after all, what a man determines for himself and for his family that affects both his views of life and his wish to secure for himself and for them that which he believes to be best. It is not what some other man believes for him that affects his life.

Evolution from within, not a dragging from outside, even if it is in the right direction, is the method of human development.

Nevertheless, if the bale of hay is skillfully hung in front of the donkey's nose it will often serve to start the wheels on an easy road.

Evidence of the value of concerted effort by individuals and of the power of suggestion was given by a woman's club in a small town. The members became aware of the dangers in exposed food, and on investigation found their own market to be very low in standards of cleanness. At a certain meeting they agreed to ask the proprietor why he did not protect this and cover that article. Certain members were told off for the duty and the days agreed upon. Mrs. A., making her usual purchases, casually asked why such an article was not covered. "I never thought about it," was the answer. Mrs. B., the next day, asked why such an article was left out for the flies. "I never thought about the flies." Mrs. C. asked the same question on the third day. The proprietor said: "You're the third woman who has asked me that. No one ever suggested it before, but it would be a good idea." Before the end of

two weeks the provisions and groceries were covered. The end had been gained without resort to coercion.

We know that our capacity for mental and bodily work depends on our supply of food. Proper food is necessary as a source of power for the work of the body as well as to furnish material for growth and repair of the losses of the body. Taking food is the most interesting of the vital processes. It appeals to all the senses (except hearing).

Professor Dawson calls attention to the fact that the richest food areas in the world have provided the most powerful stocks of men of which we have any record, and it has been pointed out by many that improper food is closely connected with mental and moral defects. Strong men and women are not the product of improper food. Dr. Stanley Hall says: "The necessity of judicious, wholesome food is paramount. . . . You can educate a long time by externals and not accomplish as much as good feeding will accomplish by itself. Children must be supplied with plenty of nutritious food if they are to develop healthily either in mind or body."

Mr. Robert Hunter says: "All that we are, either as individuals or as a complexly constituted society of men, is made possible by the food supply. . . . Perhaps more than any other condition of life it lies at the door of most of the social and mental inequalities among men."

In these days of irresponsibility there is probably more harm done to the health by ignoring physical law in the matter of eating than in any other one thing.

It is in the study of food substances and their possibilities in relation to better sanitary conditions that the widest field is open to housekeepers, and the subject should be especially fascinating to women of education and ability. All the skill and knowledge of the best educated women should be enlisted in the cause of better food for the people. Certainly no subject, except that of pure air, can have a closer bearing on the health than right diet. Much sound teaching will be needed before bad habits of eating and drinking will be conquered.

A strong, well man whose work is muscular and carried on in the open air, as is

that of the farmer and of the fisherman, will have the power to assimilate almost anything, and can maintain abundant health on the coarsest food poorly prepared, provided, only, that it is abundant and composed of the chemical constituents that the body requires.

Only a small proportion of our people, however, engage in work of this sort. The majority are compelled by occupation, age, or health to remain indoors. For them nutritious, readily digested food is a requisite. The farmer or the fisherman can digest, even thrive upon, food which would be deadly for a woman working in a factory.

In the fourth report of the Massachusetts State Board of Health (1873), Dr. Derby, the secretary, holds that "we have good reason to believe that the many forms of dyspepsia which are so commonly met with among all classes in Massachusetts, in country quite as much as in town, are but too often the danger signal that Nature gives us to show that the food, either in its quality, or its preparation, or its variety, is unsuited to maintain the vital proc-

esses. If this warning is rejected, the result of malnutrition is frequently chronic disease of the so-called major class."

Sanitation in relation to food deals first with wholesome and clean materials—meat from animals free from disease; fruit and vegetables free from decay; milk, butter, etc., free from harmful bacteria. The dangers are the transference to the human body of encysted organisms like trichina; of the absorption of poisonous substances as toxins or ptomaines; of the lodgment of germs of disease along with dust on berries, rough peach skins, crushed-open fruits; of dirt clinging to lettuce, celery, and such vegetables as are eaten raw.

For the next class of dangers we turn to the handling of foods with unclean hands.

In countless ways disease is spread mysteriously, all due to unclean habits. It is a safe precaution to patronize only those restaurants in which the waiters are evidently trained to handle the food and vessels with care. It will pay well to take care of one's hands and learn sanitary habits when one is young; then one will do right without effort.



Whatever change of ideas may come with increase of knowledge, these habits will not need to be unlearned. Without knowing the reasons for them, they have been proclaimed in civilized lands.

It should be the part of the physicians to take pains to advise, for most of our people are accessible to ideas; yet from these can come no improvement until the people are convinced that it is needed. Just as soon as the individual fully realizes that he himself is to blame for his suffering or his poverty in human energy, he will apply his intelligence to the bettering of his condition. If he can, in a short time, make as good a showing as public effort has made in the case of water supplies, he will accomplish much for the race.

Of equal importance to food, in the proper care of the human machine, comes the air we breathe.

Many of man's present physical troubles are due to the roof over his head confining the warmed, used-up air, which would escape freely if there were an opening provided. The first law of sanitation requires

the quick removal of all wastes. Once-breathed air is as much a waste as once-used water, and should be allowed to escape. Sewers are built for draining away used water. Flues are just as important to serve as sewers for used air. Air is lighter than water, and out-breathed air being warmed is lighter than that at room temperature. It rises to the ceiling, where it will escape if it is allowed to do so before it cools sufficiently to fall.

The roof also keeps out sunlight, and some late investigations indicate that glass cuts off some of the most vitally important light rays. The "glame" of the Ralstonites—"air in motion with the sunlight on it"—may have a scientific basis.

It will at once be retorted, "But we cannot heat all out-of-doors."

A partial reply is: Do not try to make your house a tropical jungle. Travelers assure us that such an atmosphere is not conducive to work or to health.

All great nations have lived in a temperate climate, where physical and mental activity was possible for many hours a day.

Science is more and more clearly giving reasons for the cooler temperature in certain physiological laws. The habits of life in regard to air and food are largely under individual, or at least under family control, and should be studied as personal hygiene.

The lessons being so clearly taught in the treatment of tuberculosis should be heeded in forming the general living habits of the people.

If loss of life can be lessened and working power increased by man's effort, why does he not make the effort? Why are men and women so apathetic over the prevalence of disease? Why do they not devote their energies to stamping it out? For no other reason than their disbelief in the teachings of science, coupled with a lingering superstition that, after all, it is fate, not will power, which rules the destinies of mankind.

Perhaps it is too much to expect that a sturdy plant of belief should have grown since the days of Edwin Chadwick and Benjamin Ward Richardson (1830-50), less than a century ago, when there were

perhaps not a dozen men and women who believed that man had any appreciable control over his own health.

This early school of sanitarians endeavored to "get behind fate, to the causes of sickness." The modern socionomist is, by a study of the mental conditions of communities, endeavoring to get behind the causes of poverty and consequent suffering to the reasons for *fatal indifference to dirt*.

It is well recognized that in severe sicknesses of many kinds the will to get well is more powerful than drugs, that something which we call nerve force acting upon the physical machine sends a vital current through the arteries, coerces the heart to renewed pumping action, and life comes again to the blanched cheek and glazing eye. This more often happens by a mental stimulus than by any medicine. In like manner the improvement of the body's shell, the home, like that of the soul's shell, the body, comes more often from an inward impulse than from outward coercion.

Appeal to the loving but listless parent will reach the heart quickest through love

for the child. Therefore stress should be laid on the child, its habits, its surroundings, its ideals. By ideals is meant the very
✓ real stimulus to action coming from within. Action must come through the material things which ideals control and through which they express themselves.

Certain notions which have crept into popular currency need to be corrected before the individual can free himself from bondage sufficiently to attempt constructive advance and improvement.

Only a small percentage of adults obtain
| the full efficiency from the human machine—the only means they have of living, working, enjoying. They permit themselves to stand and walk badly, they breathe with only a portion of their lungs, and so fail to furnish the blood stream with oxygen. They dress unhygienically. They eat wrongly. They exercise little. In short, they subject their bodies to abusive treatment which would ruin any machine. Because retribution does not instantly follow infraction of Nature's laws, they become callous and unbelieving. Economy and

efficiency in human time and strength is one of the lessons to be taught the young people, so that they may not waste their patrimony.

The youth feels as rich in his fifty years to come as he does with a legacy of \$50,000 in the bank. The years, however, can yield only small variations from the established rate of interest. The human machine can manufacture only a limited amount of energy. It remains to utilize that quantity to the best advantage. This can be done only by having a purpose in life strong enough to resist alluring temptations to fritter away both time and strength.

One of the world's busy workers found that the distractions of urban life were breaking in upon his working time and making inroads upon his physical vitality. He recognized that work for the body and work for the mind must be balanced, and he evolved an acrostic to be followed as a rule of life, the fulfillment of which has meant prolonged years of efficient work and has kept the freshness of middle life with the advancing years. Taking the six days of

the week as a unit, the acrostic is as follows:

The Feast of Life

F	Food	One-tenth the time
E	Exercise	One-tenth the time
A	Amusement	One-tenth the time
S	Sleep	Three-tenths the time
T	Task	Four-tenths the time

The first and last are nearly fixed quantities, the other three may vary within certain limits as to amount of time given and intensity of effort. Amusement and exercise may be taken together; exercise and sleep may be somewhat interchangeable.

The task, or daily work, is a necessity for mental and physical health. It should be accepted as a part of human life and the will and energy should be directed to doing it well. It may be a pure delight, the most entertaining thing that happens; *it should be interesting*. It is astonishing how interesting a dull piece of work may become if one sets one's self to doing it well. That which one subconsciously knows one is doing badly is drudgery. The real pleasure in life comes not from so-called amusements

—things done by other people to make one laugh; to “take one’s mind off”—but from seeing the work of one’s own hand and brain prosper. The work of creation, of transformation to desirable result, is the purest joy the human mind can experience. Fourteen hours a day is not too much for this kind of task. The difficulty is to gain skill of hand and eye, or training of mind, to this end. A fallacy, a canker at the heart of our social fabric today, is that the daily task is something to be rid of.

The psychology of doing is clearly illustrated in the character of Fool Billy, as drawn by the author of “Priscilla of the Good Intent.”

“Is there nought ye like better than idleness?” asked the blacksmith. “Think now, Billy—just ponder over it.”

“Well, now,” answered the other, after a silence, “there’s playing—what ye might call playing at a right good game. Could ye think of some likely pastime, David?”

“Ay, could I; blowing bellows is the grandest frolic ever I came across.” . . .

“I doubt ’tis work, David. . . . I

shouldn't like to be trapped into work. 'Twould scare me when I woke o' nights and thought of it."

"See ye then, Billy"—blowing the bellows gently—"is it work to make yon sparks go, blue and green and red, as fast as ever ye like to drive 'em?"

"Te-he, 'tis just a bit o' sport—I hadn't thought of it in that light." And soon he was blowing steadily.

Later, when David the smith was going to America and wished to leave his forge with the half-witted Billy, he proposed the smith's work as play.

"Te-he," laughed Billy, "am I to play wi' all your fine tools, David?"

"Ay, just that. I've taught ye the way o' them and Dan Foster's lad from Brow Farm shall come and blow the bellows for you."

"Will that be work for Dan Foster's lad, or play?"

"Hard work, Billy—grievous hard work, while you are just playing at making horseshoes, fence railings, and what not."

“And I’m to play at making horse-shoes,” went on Fool Billy, “while Dan Foster’s lad’s sweating hard at bellows-blowing.”

CHAPTER III

Community effort is needed to make better conditions for all, in streets and public places, for water and milk supply, hospitals, markets, housing problems, etc. Restraint for sake of neighbors.

Quite slowly but surely, the idea is dawning on the social horizon that the persistence of conditions prejudicial to human prosperity is discreditable to a civilized community, and that economics if not ethics calls for their control.

Alice Ravenhill.

It is the new view that disease must be understood and overcome; that hospitals, dispensaries, surgical and medical treatment, nursing and preventive measures must be developed and dovetailed into a general social scheme for the elimination of preventable diseases and a very substantial reduction in the prevalence of such diseases as cannot as yet be classed as preventable.

Edward Devine, Social Forces.

Nature endows the vast majority of mankind with a birthright of normal physical efficiency. It is the duty of those who aspire to be known as social workers each to do his share in confirming his fellow beings in this possession.

Dr. H. M. Eichholz, Inspector of Schools. Paper before Conference of Women Workers, London, 1904.

We know now that if we do the things we ought to do, we can prevent sickness. We have reached a point where it is recognized that it is the duty of the community or state to effectually protect itself against the ignorant, the selfish, the filthy, and the diseased. We believe now that we must have proper sewage disposal, pure water, decent tenements, clean streets, good-sized playgrounds, supervision of factories, protection of child labor, and pure food.

Eugene H. Porter, Report, 1909, New York State Department of Health.

Next after himself, man owes it to his neighbor to be well, and to avoid disease in order that he may impose no burden upon that neighbor.

Dr. William T. Sedgwick, The Call to Public Health.

CHAPTER III

HOPE

THE real significance of biological evolution has not been grasped by the people in general. It is that man is a part of organic nature, subject to laws of development and growth, laws which he cannot break with impunity. It is his business to study the forces of Nature and to conquer his environment by submitting to the inevitable. Only then will man gain control of the conditions which affect his own well-being.

Sickness, we know, is the result of breaking some law of universal nature. What that law may be, investigators in scores of laboratories are endeavoring to determine. In most diseases they have been successful. Those remaining are being attacked on all sides, and it may be confidently predicted that a few years will see success assured.

Why, then, does sickness continue to be the greatest drain upon individual and na-

tional resources? Because man, through ignorance or unbelief, will not avail himself of this knowledge, or is behind the times in his method. Where wisdom means effort and discomfort, many feel it folly to be wise.

The individual may be wise as to his own needs, but powerless by himself to secure the satisfaction of them. Certain concessions to others' needs are always made in family life. The community is only a larger family group, and social consciousness must in time take into account social welfare. Moreover, a neighbor may pollute the water supply, foul the air, and adulterate the food. This is the penalty paid for living in groups. Men band together, therefore, to protect a common water supply, to suppress smoke, dust, and foul gases which render the common air unfit to breathe. The State helps the group to protect itself from bad food as it does from destruction of property.

The development of fire protection is a good example of community effort. The isolated farmhouse may have buckets of

water and blankets in an accessible place with which to put out an incipient fire. Then eight or ten families build close together. The danger of one becomes the danger of all, and a fire brigade is organized that may protect all. When hundreds of families crowd together in a small space the danger becomes so much the greater that a paid department with efficient apparatus is necessary. No one complains of the infraction of individual rights. Each one is glad to pay his share of the expense.

In securing protection from other dangers, the individual and the family unit are fast relying on community regulations. In fact, in many ways the individual, when he becomes one of a crowd, must go whither the crowd goes and at the same rate of progress.

Failure to recognize that by coming into the community he has forfeited his right to unrestrained individuality causes an irritation as unreasonable as harmful.

A certain control of sanitary conditions must be delegated to the community and its rules cheerfully followed. The legal as-

pects of these rules will be considered in a later chapter. Here is to be considered only the *mental attitude* with which the members of the community should come together to agree upon a common defense against disease and dirt. The spirit of co-operation must prevail over a tendency to antagonism when certain individual rights seem to be involved.

Numbers of families living close together are served by the same grocer or market man. These families may agree upon their requirements as to quality and cleanliness and publish their rules. If they do not take interest enough to protect themselves, the community must make rules for them. If the local officials are not vigilant enough, the State may step in and compel the observance of sanitary regulations.

The average citizen learns of the existence of a health regulation when he is warned that he has broken it, or perhaps is fined. His first attitude is rebellion at the invasion of his personal liberty. The housewife usually takes the ground that the rule is absurd or unnecessary.

When, in the interest of the community, any law is to be enforced, how are the people to be led from this rebellious state of mind? Perhaps first through authority. In America we have learned to use the phrase, "Big Stick." Authority is exactly that; it is coercion from without. It has partial result in good; the law may be fulfilled because the individual knows he must obey when within the jurisdiction of that law; but if the result is simply obedience to authority and not to the underlying principle, it will not be a force in his life or be continued if by chance he can escape it. He will be a "tramp" in his methods of obedience. This method can never be constructive; its value lies in the possibility that by continuous usage or repetition the procedure may become a habit, and from habit will come reason and intelligence.

But the more direct and efficient way to help the individual to realize his relation to communal right living is through education. The former method—blind obedience—will foster the spirit of antagonism and call the State's protection "interference," thus

weakening the efficiency of the State and of the individual, for the State is the multiplication of its citizens; but through the latter method the individual will carry out the law with intelligence and interest. This will be constructive and it will be permanent, for again, if the State is the sum of its citizens, the efficiency of the State is the sum of the efficiency of the citizens.

Their interests are now identical, the man has become equal master with the State; they are co-partners. His motive for right living is greater than the letter of the law, for he is the living law, the protest against wrong and the fulfillment of the right.

The next generation must be born with healthy bodies, must be nurtured in healthy physical and moral environments, and must be filled with ambition to give birth to a still healthier, still nobler generation. But, as has been said, "whatever improvements may sometime be achieved, the benefits of their influence can be enjoyed only by future, perhaps distantly future genera-

tions. We of the present have to take our heredity as we find it. We cannot follow the advice of a humorous philosopher to begin life by selecting our grandparents; but through hygiene (sanitary science) we can make the most of our endowment."¹

There is a force in the development of public opinion somewhere between individual action and national compulsion which may be termed "semi-public" action. It is in a measure the same sort of influence that in a later chapter is termed "stimulative education." For instance, a hospital for the treatment of some special ailment is needed. Private enterprise furnishes the capital, proves the success of the treatment, and then the community comes forward and supports the institution. Such helps are accepted freely and are not considered undemocratic.

The less spectacular but more effective office of prevention of the need for charity, in the maintenance of cleanness in the markets, streets, and shops, yes, even in the homes of the people, has been neglected. Through lack of belief, and especially

¹ Report on National Vitality, p. 55.

through inattention to causes so common as to escape notice, many details of great hygienic importance have been overlooked.

Some daring ones in commercial ventures are showing the possibilities of a standard in cleanness, and model establishments, dairies, bakeries, and restaurants should receive the hearty support of a community. If they do not receive this support, it is more than discouraging to the promoters, for *it costs to be clean*, a lesson the community must learn. The saving of money and the consequent loss of life through disease, or the spending of money and the saving of life through prevention, are the alternatives.

Undoubtedly the old view of charity as tenderly caring for the sick—because there must always be a certain amount of sickness in the world—has held men back from attempting to make a world without sickness. The charity worker of the past had no hope of really making things better permanently.

✓ The new view, based upon scientific investigation, is that it is not charity that

is needed to support invalids who once stricken must fade away, but preventive action to give the patient hope and fresh air. Most important of all, the experience already gained shows how far from the truth was the old fatalistic notion of the necessary continuance of disease.

While the support of many agencies—dispensaries, clinics, hospitals, sanatoria, etc.—must for a time depend upon private philanthropy, the expense is in the nature of an investment to bring in a high rate of interest in the future welfare of the race. As soon as the belief in the efficiency of these agents reaches the taxpayer he will willingly furnish the funds for public agencies.

Today the child in the school is examined; then, if need be, is given special consideration at the dispensary, then sent to school, where, with fresh air, pure food, and hygienic surroundings, he will so strengthen himself as to combat the ravages of disease.

The Association for the Improvement of the Condition of the Poor, New York

City, not only sends bread to fill the hungry stomach, but now sends a wise and sympathetic worker to help women to understand food and money values, which means a permanent help. And it no longer simply says to the tired, worried woman who has had no education-stimulus along the line of cleanliness, "Be clean," but sends in women to make the house an example, an exhibit of clean conditions, if you will. Example is stronger than precept.

In the rapid growth of cities, so often beyond anticipation, preparation for development or plans for extension have seldom been laid. Much suffering has been wrought to the families of men in our crowded cities, for there is no greater evil than the congestion of streets and buildings.

Many students of social conditions of today believe that the most serious menace is the situation best described as housing—the site, the crowding, the bad building, poor water supply and drainage, lack of light and air and cleanliness. All believe that it is economically a loss to the city in general, however profitable to a very few.

To rent such buildings is a far greater crime than cruelty to animals or even the beating of women and children.

But groups of people the wide world over are keenly awake to this state of affairs, and though the problem is tremendous they are trying in numerous ways to solve it.

In some cities there are at present organizations urging "city planning," while in several foreign cities the municipality has already made regulations. In some cities there are municipal model tenements, but this is still a project of too small proportions to affect the community.

Perhaps no modern movement that comprehends both the city planning and the housing of the working people is more ideal than the "Garden Cities" movement in England and the other countries following it.

If there is any spot on which the hand of the law should be laid, it is the congested districts in cities and mill villages. The evil has grown to such magnitude that the first steps will mean some drastic measures.

The author has elsewhere called it the

Capitalists' Opportunity. Instead of investing in an uncertain gold mine in some distant land, let the millions, for no less sum will suffice, be invested in a plot of land, whether an open field or a slum district depends on local conditions, and thereon cause to be erected habitations decently comfortable, wholly sanitary, and place over each group an inspector as both agent and teacher who shall be a friend to the tenants, and to whose office they may come freely with their needs. This plan has been in part carried out in the Model Tenements in New York, but variations and improvements are needed. There should be more light and air, more grass and trees, even if the buildings are fifteen-story towers.

The old story has been so often reiterated, "But the tenants will not use the devices," that the capitalist has become callous to this appeal. The missing link in the chain has been the instruction to go with the construction.

All department stores, all venders of new mechanical appliances, have come to recognize the value of demonstration, or

instruction, in the use of articles as an aid to purchase. The advocate of better dwellings must take a leaf from the commercial book and *show how*. It is in this that philanthropy has been weak in the past. It has assumed a power to see, where there was only a fear of handling the strange objects.

There is a virgin field for the capitalist who wishes to use some millions for the prosperity of the country to build a short trolley line to a district of sanitary houses with gardens, playgrounds, entertainment halls, etc.; such a village to contain, not long blocks, but both separate houses and tenements from two rooms up, possibly several stories high, where the elders may have light and air without the confusion of the street. Dust and noise will be eliminated. There should be a central bakery and laundry, and, most important of all, an office where both men and women skilled in sanitary and economic practical affairs may be found ready to go to any home and advise on any subject. There has never yet been such an enterprise with all the ele-

ments worked out. Several, however, have shown the way, the Morris houses in Brooklyn, for example.

It is easier to take a city block and construct fireproof, high buildings than to solve transportation problems. We are losing our fear of the high buildings as we see the great value of light and air. There is chance for work in this direction, for in spite of rapid transit some must live in the center of things.

Let a philanthropist or two, instead of building hospitals, set some bright young architects and sanitarians to devising such suitable housing conditions for city and suburbs as will obviate the necessity for hospitals. Any lover of his kind, any one who longs for fame, could find both it and the blessing of the homeless by this means, and in the end get a fair return for his investment.

The Federal Department of Labor¹ has studied workingmen's houses, but *living in the house* has not been worked up. The housewife has no station to which she

¹ Bulletin No. 54.

may carry her trials, like the experiment stations which have been provided for the farmer. Here is another opportunity for the capitalist to hasten the time when the State will supply these. The way will very soon be laid out and the first steps taken.

For the immediate present some standard of healthful housing is needed, and now that a similar type of house and of apartment house is being built in all cities and towns from one ocean to the other, and from Texas to Maine, such a standard is compatible with conditions.

A score card for houses to rent would save much wrangling. The agent shows the card with this house's rating, and the tenant learns that some of his wishes are incompatible with the standard, and some would mean a much higher rent than he is willing to pay. Professor J. R. Commons, Department of Economics, University of Wisconsin, has devised a score card to serve the house hunter and householder as a standard of comparison. This should serve the house builder as well, indicating what the demand will be forty or fifty years hence.

At present the rating stands somewhat as follows:

- Dwelling, 100 points
- Location, 18 points out of 100
- Congestion of buildings, 26 points
 - Common entrance for two or more, discredit 2 points
 - Basement, discredit 5 points
 - Sunlight, credit 16 points of the 26
- Window openings, 11 points
- Air and ventilation, 13 points
- Structural condition, 6 points
- House appurtenances, 26 points
 - Well outside, discredit 3 points

The final score card may vary somewhat.

For rent collectors there is also a score card.

- Occupants, 100 points
 - Congestion of occupancy, 61 points cubic air space 1,000 cu. ft. per person, no discredit
 - 600 cu. ft. per person discredits 20 points
 - Condition of air and ventilation, 18 points
 - Cleanliness, 21 points

A score card movement might be started as a hobby, and in the end lead public opinion to judicial choice and action. No such movement, however, is possible without leaders, and leaders of the right type.

The lesson for the community to be drawn from a study of crowd psychology is that of leadership and loyal coöperation. The common man is likely to be possessed of one idea at a time. If such an one becomes a leader, there is danger that equally vital factors will be overlooked. Safety is found in a combination of leaders to make an all-round improvement.

Each individual is too busy in his own affairs to look after his own, much less his neighbor's, health and comfort, hence community life, with its advantages, brings its own dangers. Children in school in contact with other children; crowds in trains, in elevators, stores, in lecture halls, contract habits as well as diseases. The need for large quantities of supplies at one point brings long-distance transportation and cold storage difficulties. The man who caters to public need does not look far ahead to consequences, and if unrestrained may prove more of a menace than a convenience.

The safe and reasonable way is to delegate to certain persons the making and enforcement of regulations corresponding to

the needs of the times, and then to obey them, even at some personal inconvenience.

Each community should put into the hands of its health officers the carrying out of the rules it has agreed to as an *insurance* against outbreaks of disease. Does a man let his fire insurance policy lapse because the year has passed without a fire? Even if the regulation seems superfluous to the particular individual or family, let it be remembered that there are inflammable spots in every community. Eternal vigilance is the price of safety in sanitary as well as in military affairs. As in the army, the community must delegate scout duty to certain chosen individuals and rely on their report for safety.

CHAPTER IV

Interchangeableness of these two forms of progressive effort. First one, then the other ahead.

Preventive medicine is the watchword of the hour, and enlistment in the cause can come only through education. . . .

He who understands the dangers is thrice armed, and is trained and entitled to enlist in the home guard to protect the health of his household and neighbors.

Dr. M. H. Rosenau, Harvard Medical School.

The next generation of parents is being made strong or weak in home and school today by an environment furnished by parents and teachers. These latter cannot be too well instructed in physiology, hygiene, and biology.

Prof. John Tyler, The Responsibility of the Medical Profession for Public Education in Hygiene.

The new view is a social view, which seeks in all movements, whether of research or of remedial action, for the common welfare.

Edward Devine, Social Forces.

Democracy means that the best of all life is for all, and that if there are many incapable of entering into it, then they must be helped to become capable.

Ralph Barton Perry, The Moral Economy.

If the child is not only in theory but in practice recognized as the main interest in society, the family and society will more and more assist the mother in his nurture.

W. I. Thomas, Women and Their Occupations.

Health administration cannot rise far above the hygienic standards of those who provide the means for administering sanitary law. The tax-paying public must believe in the economy, utility, and necessity of efficient health administration.

Wm. H. Allen, Civics and Health.

The connection between poverty and ill health is so direct, so immediate, and so important that the moment any individual or society turns its attention to the causes of poverty, that moment it finds itself in the thick of the public health movement.

Homer Folks, Journal Public Hygiene, November, 1909.

CHAPTER IV

FAITH AND HOPE

PROGRESS is a series of zigzags: now the individual goes ahead of the community; now the community outstrips the individual.

The community cannot rise much above the level of the individual home, and the home rises only by the pull of the community regulations, or by the initiative of a few especially farsighted individuals.

The steps need to be carefully measured, for if the family begins to rely on the State for the backbone it should have, it will not stay up, and its fall will be lower than the stage it rose from. "When man reverts, he goes not to Nature, but to death."

The example set by the city in maintaining clean streets and well-kept parks reacts upon the home yards. The insistence by the police on city regulations as to alleys and garbage educates the family as to the general attention to be paid to such things.

The city authorities, on the other hand, are prodded to their work by well-informed individuals who see the great gain to the community from certain measures.

The centers of movement, civic and quasi-religious or philanthropic, are usually the outgrowth of individual effort. The great movements for betterment—water supply, street cleaning, tenement laws, etc.—are carried out by community agreement with a common tax outlay.

The clean city means streets of clean houses. The clean house in the midst of a dirty city may be the match to start a fire of cleansing.

Probably medical inspection in the public school is as good an example as may be given of helpfulness to the community. No quicker means of influencing both home and community life may be found, for in five years it might revolutionize the whole.

School buildings should be so constructed and so managed that they cannot themselves either produce or aggravate physical defects. Departments of school hygiene should be organized, not only in

every city, but for every rural school under county and state superintendents of instruction. The general question of physical welfare of children involves too many considerations to be satisfactorily treated by school physician and school nurse alone, or by busy teachers and principals.

"New York City will spend in 1910 \$6,500 for making over twenty rooms in regular buildings, a first step in an entirely new plan of ventilation, which will eventually give outdoor air to all children, sick or well."¹

Speaking generally, America is one of the last of the civilized nations to deal with the subject of the medical inspection of school children upon a comprehensive and national scheme. But once aroused to the needs, it is safe to say that the nation will speedily educate parents to correct such home conditions as reduce the child's ability to profit from schooling, and to persuade governments to see that safe homes are provided. It will be easy to convince the taxpayer that it is cheaper to provide such care

¹ Bureau of Municipal Research.

than to neglect the future parent and citizen, for it is easy to prove that medical inspection in our schools returns large dividends on small investments. Dr. Luther Gulick says that it seems probable, though only a guess, that the total annual expenditure for medical inspection of schools in the United States at the present time is perhaps \$500,000. The money saved by enabling thousands of children to do one year's work in one year, instead of in two or three years, would greatly exceed the total expense of examining all children in all boroughs.¹

The health of all our school children should be conserved by a system of competent medical inspection which should secure the correction of defects of eyes, ears, teeth, as well as defects due to infection or malnutrition.

The statistics of medical inspection in public schools tell a pitiful tale wherever it has been tried: thirty or forty per cent of the children are found with defective or diseased eyes, ten to twenty per cent with distorted spines, fifteen per cent with throat

¹ Quoted in Report on National Vitality, p. 123.

and nose troubles, all of which directly affect their intellectual proficiency.

When these deficiencies are discovered and reported to the parents, such is the apathy of disbelief that seventy-five per cent of the cases usually go unattended; therefore the school nurse, who follows the case home and explains the needs and sets forth the penalties, has become a necessity.

The parent who permits his child to go to school physically unfitted to profit from school opportunity is not only injuring his own child, but is injuring his neighbor's child, and is taxing that neighbor without the latter's consent.

It would seem as if such parents had forfeited their right to the sole care of the children, and that government would be obliged, for its own protection, to step in and do the work while it is needed. The author has termed this *temporary paternalism*. The providing of penny lunches during the morning recess, the service of the school nurse and the home visitor to teach those parents who are willing to learn all these schemes for the saving of the child,

may be carried out in a spirit of helpfulness with a support which may be withdrawn when no longer needed.

✓ Although all America has not become aroused to the undoubted fact of tendencies toward physical deterioration, it is on the verge of an awakening. The public school is the natural medium for the spread of better ideals, and if the teachers of cooking and of hygiene would coöperate and use all the material which sanitary science is heaping on the table before them, we should soon see a betterment of the physical status. Combined with medical inspection and sanitary construction of schoolhouses, this would raise the general health of the community thirty or forty per cent in five years and fifty to seventy per cent in ten years.

There has been in some quarters much objection to public effort towards remedying evils which would not have existed if each family had lived up to its duties. The community is a larger family, with greater resources, and can employ investigators to find the means for greater security. That individual is very foolish who does not rec-



ognize this interaction between community and individual, and who objects to taking the benefits of the larger knowledge.

To take one of the latest examples of social problems: In every thousand children in the public schools of any city, probably of the town also, there are perhaps fifty who are ill-nourished (not necessarily underfed), ill-clothed, unwashed, and deprived of good air for sleeping. What is the duty of the public? This is one of the burning questions of the moment. Send missionary teachers to the homes, some say, but that is costly; the selection of the suitable missionary is difficult, and the result may be slight. Others say, give one good luncheon at the school, for which the children pay in part or in whole, and make that an education which, by the aid of the school nurse, will in time affect a change in habit. In short, the problem is this: Shall the children suffer in childhood and become a burden on society in adult years, or shall society protect itself from future expense by community care now? "Because *finding* diseases and defects does not protect children unless

discovery is followed by *treatment*, fifty-eight cities take children to dispensaries or instruct at schoolhouses; fifty-eight send nurses from house to house to instruct parents and to persuade them to have their families cared for; 101 send out cards of instruction to parents either by mail or the children; while 157 cities have arranged special coöperation with dispensaries, hospitals, and relief societies for giving the children the shoes or clothing or medical and dental care which is found necessary.”¹

Nearly all preventive measures adopted by society and ranked as paternalism by timid philanthropists are or may be educative and temporary at the same time. They may be dropped as soon as the end is gained. The attention of parents must be called to neglected duties. Compulsory attention to such duties as affect the wards of society, the children, may be needed for a time. Just as the wise father, taking the child for a walk, allows him to run free as soon as his strength and courage permit, so the paternalism of society is relaxed as soon

¹ Bulletin, Bureau of Municipal Research.

as its *protégées* show themselves both able and willing to do the right thing without its aid or command.

Compulsory school attendance places responsibility for certain care, vaccination, decent clothing, good food, decent shelter. The thousand and one ways in which society is now protecting itself are all educating the newcomers to American ideals. They are all intended to make efficient, self-sustaining citizens who do not feel the pull of the law or the bond of outside care. It is the last conflict between the ideals of individualism and those of the community need, subordinating the individual preference. Much wisdom and forbearance will be needed to secure this community ideal, but in that way evidently lies progress. It behooves the leaders of social effort to make all their work educational, and thus remove the necessity for a repetition in the future.

Just as the parent in the home establishes habits while the child's mind is plastic, so the community stands *in loco parentis* to the future citizen, and surrounds him with safeguards while needed. Knowledge

is needed, scientific investigation is fundamental, expert wisdom is indispensable, costly though it is, being the product of long research and rare brain power. This is at the service of the nation for the good of all the people, and it is the surer the wider the range of experience. For this reason chiefly, greater actual knowledge and more complete harmonizing of conflicting interests is necessary. Certain sanitary measures are carried out by the Federal government as an education to communities, just as communities educate individuals. Federal effort may be unwisely put forth in certain cases, investigations of little consequence may be undertaken, but on the whole a democracy must learn to manage its affairs by making mistakes. The principle should not be discarded as a result of the first mistake.

The immediate concern of this chapter is with the leaders of community movements, the educated, sympathetic, far-sighted sociologists, sanitarians, and economists, whose concern is for the advancement of mankind. These leaders must have

courage and belief in the value of their work, for no half-hearted means will carry the community forward. Still more, they must have knowledge, a sure ground to stand upon. To acquire this means both time and opportunity. To go into betterment work without it is to set back the wheels of progress, not to advance them.

CHAPTER V

*The child to be "raised" as he should be.
Restraint for his good. Teaching good
habits the chief duty of the family.*

Our success or failure with the unending stream of babies (one every eight seconds) is the measure of our civilization : every institution stands or falls by its contribution to that result, by the improvement of the children born or by the improvement of the quality of births attained under its influence.

H. G. Wells, Mankind in the Making.

Children are the most hopeful element of our population, and we should concentrate our efforts on them.

Dr. W. F. Porter, Harvard Medical School Lectures.

We want the mothers to be the health officers of the home.

Charles W. Hewitt.

When human beings and families rationally subordinate their own interests as perfectly to the welfare of future generations as do animals under the control of instinct, the world will have a more enduring type of family life than exists at present. This can only be accomplished by the development of controlling ideals which are supported not only by reason and intelligence but by ethical impulse and religious motive.

The home should be considered the place where are to be developed and conveyed the precious qualities which are so vital to the continuity of the race and the progress of human society and civilization.

Those factors which are of a more material or physical nature, such as shelter, food, dress, and personal health, are to be estimated in their relation to mind, character, and effective conduct.

In the confusion of relative values human health as one of the essential means to many worthy ends is usually neglected. Man is the most highly developed of all species of animals. He is, to some degree at least, civilized, and yet human beings are of all animals the sickliest, and this in spite of the fact that human health is more important to man and to the world than the health of any other creature. And by health I do not mean simply existence, freedom from pain, or absence of disease, but rather organic power and efficiency, the maximum vital ability possible to the individual for the doing of all that seems most worth while in life.

Dr. Thomas D. Wood, Lake Placid Conference, 1902.

CHAPTER V

RESPONSIBILITY

THE ideal of "home" is protection from dangers from *within*—bad habits, bad food, bad air, dirt and abuse,—shelter, in fact, from all stunting agencies, just as the gardener protects his tender plants until they become strong enough to stand by themselves. The child's home environment is certainly a potent factor in his future efficiency.

But more than physical protection is that education in all that goes to make up profitable living, acquired by following the mother or nurse in her daily round and in having legitimate questions answered. Imitation is the first step in good habits, as in learning to walk or to read. That which is set before the child should be worthy its imitation, and be of value when fixed as a habit. Habits of health, correct position, deep breathing, clean ways, distaste for dirt in one's person or in one's vicinity, lik-

ing for fresh air, for simple food, good habits of exercise, of reading, and the thousand and one trifles that go to make up the efficient worker in adult years, all belong to the well-ordered home, where, as one author puts it, the child is the business of the day.

But the State cannot risk its property too far.

When mothers become so careless or ignorant that half their children fail to reach their first birthday, and of those that live to be three years old a majority are defrauded of their birthright of health, some agency must step in.

If the State is to have good citizens it must provide for the teaching of the essentials to a generation that will become the wiser mothers and fathers of the next. Therefore, even if we regard this as only a temporary expedient, we must begin to teach the children in our schools, and begin at once, that which we see they are no longer learning in the home. "The achievement at Huddersfield, England, is especially noteworthy. The average annual

number of deaths of infants for ten years had been 310. By a systematic education of mothers the number was in 1907 reduced to 212. The cost of saving these ninety-eight lives was about \$2,000."¹

One university has established a course in the care of children, much to the amusement of the press. The United States Commissioner of Education has, however, been a responsible mover in the idea.

But real progress by means of family education means the stable family and the permanent dwelling. Where is the family in the permanent dwelling today? Among any class, except the agricultural, where is the stable family?

Since industry has taken woman's work from her, and she has to follow it out into the world, the means of education for the child has gone from the home. Its atmosphere is artificial, if the attempt is made.

To work exclusively on the family, for the sake of the child, is a very slow process. As in all American life, the quicker method appeals most strongly. The school is today

¹ Dr. Charles H. Chapin.

the quickest means of reaching both child and home; the present home through the child, and the future homes through the children when they grow up.

And time presses! A whole generation has been lost because the machine ran wild without guidance, and all attempt at improvement was met by futile resistance.

It is very difficult to present the socionomist's view of the child in the home so that it may appeal to the two extremes of opinion. There are those who still apply mediæval rules to twentieth century living; those who believe, honestly, that the ideal life was found in the days when the mother was the manufacturer in her own home and the children were her helpers in all the varied processes. "There was never any artificial teaching devised so good for children as the daily helping in the household tasks." The inference is made that therefore the same restriction for the mother and the children leads to an ideal life today. Such persons fail to realize that the twentieth century is practically a new world. The old rules which related to material things

hardly hold more closely than they would on the planet Mars. The fundamental moral principles of reverence, obedience, love, and unselfish sacrifice must be worked in on a new background.

To keep the eighteenth century habit, so carefully taught the girl, of courtesying as she stepped aside to allow the rider or the ox cart to pass, in these days of the swift automobile, which would be out of sight before the knee could bend, is no more ridiculous than to expect the average young mother to follow the methods of her grandmother. Her mother's ways are now pronounced all wrong, not necessarily because they were wrong then, but because conditions have changed, knowledge has been gained, and it is clearly a waste of human life, of money, of physical and mental power for people to be sick and die because the caretaker does not use the knowledge in circulation.

If the young mother can learn how better to fulfill her duties by going out of the house to lectures or classes, why not?

Tracts are not always successful as an

- incentive to conduct. It is obviously impossible to pass a blue law compelling parents to conform to—what ideal? The school is fast taking the place of the home, not because it wishes to do so, but because the home does not fulfill its function, and so far has not been made to, and the lack must be supplied. The personal point of view, inculcated now by modern conditions of strife for money, just as surely as it must have been by barbarian struggle in pre-civilized days, must be supplanted by the broad view of majority welfare. The extreme of the personal point of view, expressed in such phrases as “The world owes me a living;” “My child is mine to treat as I please;” “It is nobody’s business how I spend my money;” “I have a right to all the pleasure I can get out of life,” is well shown in Mr. H. G. Wells’s analogy¹: “A cat’s standpoint is probably strictly individualistic. She sees the whole universe as a scheme of more or less useful, pleasurable, and interesting things concentrated upon her sensitive and interesting personality.

¹ Mankind in the Making.

With a sinuous determination she evades disagreeables and pursues delights. Life is to her quite clearly and simply a succession of pleasures, sensations, and interests, among which interests there happen to be —kittens."

This unsuspecting ignorance of the real nature of life is by no means confined to animals and savages; it would seem to be the common view of many young people today. At least they take as little care of the homes to which they bring children, and they follow the cat's example in boxing the children's ears and turning them out to fend for themselves.

The last generation seemed to become disciples of Schopenhauer in his passionate rebellion against the fate that deferred all the pleasure of the present to the needs of the future generation. Evolution has revealed the necessity for this subordination of the individual lot to the destiny of the race, if progress is to be made. The man who asserts himself as free from race tram-
mels is snuffed out as a factor—a blighted blossom fallen to earth and trodden under

foot. To the student of biological evolution, the individual is as a mere pin point on the chart of community advance, for surely society grows according to evolutionary law. "As certainly as Nature gives the poor child its chance of a good life, so certainly do the circumstances of slum environment rob it forthwith of its birth-right—it is not uncommon to find more than half the children of three years of age hanging on to life with marks of disease and undergrowth firmly implanted on their tender frames. Yet, practically, none of this is inherited in the true sense; it is the victory of evil human devices in their endeavor to cheat Nature of her own. If ever there was a mission in the world worthy of the most strenuous service, it is to wrest back this victory, be it out of pity for suffering children or for the very welfare and existence of the nation.

"The schools have made their beginning; the *homes* have not yet started; they wait the impulse from without. It is for voluntary, intelligent opinion to get to work on the home, and never to relax until a race

of parents has arisen which knows no other duty to the state than to rear with heart and brain the children which have been given to them. Then we shall hear no more about physical degeneracy."¹

Hope for the future is to be found in the conclusions of the immigration commission, that in one generation certain marked changes in stature and in head measurements have taken place in the children of immigrants of various nationalities, such changes as have hitherto been considered as the result of centuries. The commissioners credit the better environment and larger opportunities with these indications of increasing intellectuality and mental force.

Most human efficiency is the result of habits rather than of innate ability. These habits of mind, as well as of body, are developed by the home life at an early age. The home is responsible for the upbringing of healthy, intelligent children. Here is the place for fostering the valuable and suppressing the harmful traits. The school can

¹ Dr. H. M. Eichholz, Inspector of Schools. Paper before Conference of Women Workers, London, 1904.

never take the place of the home in this. With the large classes of the public schools, the teacher should not be asked to undertake this individual work. Moreover, correcting a child for personal habits can hardly be effective before fifty or sixty pairs of critical eyes.

The office of the home must be to teach habits of right living and daily action, and a joy and pride in life as well as responsibility for life. It is not fair that the parents should sit back and shift to the school the whole responsibility for the future citizen.

The little modifications can best be made in the home, permanent foundations can be laid and braced with habits so good and strong that nothing can shake them. Most powers are the result of habits. Let the furrows be plowed deeply enough while the brain cells are plastic, then human energies will result in efficiency and the line of least resistance will be the right line. Everything, therefore, which influences the child must be the best known to science. The houses of the land must be regulated by the scientific laws of right living. To the

woman, the home worker, we say: "You must have the will power, for the sake of your child, to bring to his service all that has been discovered for the promotion of human efficiency, so that he may have the habit, the *technique*.

To pay a tax today for the benefit of one's children is a principle of insurance, of benefit association. This feeling of obligation means present sacrifice of ease and inclination, and it has been increasingly shirked, so that it is not surprising that a tax to insure one against future loss by disease is an unwelcome proposition.

The whole question of the child in the home is one of ethics, as the writers on social conditions have been trying to convince the world. If the swarms of dwellers in the busy hives of industry have no sense of their humanity, if they do not use the human power of looking ahead, that power which differentiates man from animals, what better are they than animals?

No one can be sorry that there are no children in thousands of homes one knows. It is better that children should not have

been born than to come into an inheritance of suffering and mental and moral dwarfing. Social uplift will not be possible while parents take the view of cats, or even of a well-to-do mother who said, "I did not have my baby to discipline her; I had her to play with."

No state can thrive while its citizens waste their resources of health, bodily energy, time, and brain power, any more than a nation may prosper which wastes its natural resources.

America today is wasting its human possibilities even more prodigally than its material wealth. The latter deficiency is being brought to a halt. Shall the human side receive less attention? A sharply divided line between home and school is no longer clearly drawn. Parents' associations are being formed and are coöperating with the school-teacher. To what end? To the better moral and intellectual atmosphere of the home. Physical education has had its vogue, but too much as an endeavor apart, not as a necessary element in the whole.

The pedagogical world is now becoming convinced that physical defects are more often than not the basis of mental incompetence, and this leads logically to the teaching of the laws of right living in a practical way, not merely as lessons from books, but as daily practice. This practice must eventually go into the home, where the most of the child's hours are spent. It is as useless to expect good health from unsanitary houses as good English from two hours' school training diluted by twelve hours of slovenly language. Hence the imperative need of such teaching and example as can be put into practice; and since immediate house to house renovation and change of view are impossible, the school must provide for teaching how to live wisely and sanely, as well as for clear thinking and æsthetic appreciation. Practical hygiene, food, cleanliness, sanitation, all must eventually be exemplified by the schoolhouse and taught as a part of a general education to all pupils, boys and girls.

If this sounds like socialism, let us not be afraid, but educate for five or ten years

all children, so that homes may be better managed, and then it is to be hoped there will be no need for such school training. To live economically in the broad sense of wise use of time, money, and bodily strength is the great need of the twentieth century. This is practical economics. This is something which cannot today, except in rare instances, be learned at home, for conditions change so rapidly that grown people may not keep up with them. Mothers' ways are superseded before the children are grown.

The school, if it is maintained as a progressive institution and a defense against predatory ideas, is the people's safeguard from being crushed by the irresistible car of progress. I repeat, standards may be set by the school which will reach and influence the community in a few months. Such standards should be a means of safeguarding the people, and this leads to the most important service which a teacher of domestic economy can render to the people in giving them a sense of control over their environment, than which nothing is so conducive to stability of ideas.

To feel one's self in command of a situation robs it of its terror. A great danger in America today is the loss of this feeling of self-confidence with which the pioneer was abundantly furnished. A certain helpless dependence is creeping over the land because of the peculiar development of resources, which must be replaced by a sense of power over one's environment.

Home Ideals

There is no noble life without a noble aim.

The watchword of the future is the welfare and security of the child.

Love of home and of what the home stands for converts the drudgery of daily routine into a high order of social service.

The economy of right uses depends largely upon the home-maker, and brings the return in health, happiness, and efficiency.¹

¹ Motto, Mary Lowell Stone Home Economics Exhibit, Jamestown Exposition, 1907.

CHAPTER VI

The child to be educated in the light of sanitary science. Office of the school. Domestic science for girls. Applied science. The duty of the higher education. Research needed.

No Christian and civilized community can afford to show a happy-go-lucky lack of concern for the youth of today ; for, if so, the community will have to pay a terrible penalty of financial burden and social degradation in the tomorrow.

President Roosevelt, Message to Congress, December, 1904.

The loss of faith brings us by a short cut straight to the loss of purpose in life — of any purpose, at least, beyond purely material ones. To those who need money the duty of getting it first and above anything else becomes the gospel of life. To those who feel the need of position, whether in society, business, or elsewhere, their gospel drives them to all means within the law to attain that. To those who have both money and position comes the only remaining purpose in life — that of using them for an existence of amusement and enjoyment. Is it too much to say that never before in our history have such aspirations so completely dominated and limited such large classes?

What is the poor American to do in his present fever and with his present nerves, but with fivefold greater powers placed in his hands and fivefold greater attention and capacity demanded for their control? If sixty years ago the free forces and rushing advance of the republic urgently needed the regulation of a powerful and learned conservative body, who can overestimate the necessity for such service now?

When you ask how it is to be rendered, one cannot be mistaken in turning first to those priceless qualities in any sound national life whose tendency to decay we noted at the outset. Give back to us our faith. Give back to us a serious and worthy purpose. Restore sane views of life, of our own relations to it, and of our relations to those who share it with us.

Whitelaw Reid, Phi Beta Kappa address, 1903.

CHAPTER VI

THE HOME AND THE SCHOOL

ONE must not displace the other, for one cannot replace the other, but rather the home and the school must react on each other. The home is the place in which to gain the experience, and the school the place in which to acquire the knowledge that shall illuminate and crystallize the experience. The child should go out to the school with enthusiasm, and return to the home filled with a deeper interest and desire to realize things.

In morals and manners the school can only give tendency or direction to the child's life. The school is not the best place to teach ethics. In the family life the child himself finds his future revealed, reflected by his relations to other members of the family. The spirit of coöperation nurtured there will develop in the school through the more various opportunities of relationship to others.

The earlier conditions cannot be restored, even the home training cannot be brought back, except on the farm, and there, it is hoped, it may be revived. The city or suburban children cannot have the opportunity to pick up chips when too young to bring in wood; cannot stand by and hold skeins of yarn, or go to the barn and help feed the calves—all most interesting and provocative of endless questions. They cannot go into the garden and pick berries or vegetables for dinner, cannot learn how to avoid breaking the vines, or how to judge the ripeness of the melons.

All that is probably not feasible for many, because it is not possible to give children of this age responsibility without oversight, and today's elders are loath to give and are often incapable of giving oversight.

But while these circumstances over which, apparently, we have no control, preclude much of the valuable outdoor work, food has still to be prepared, dishes need washing, and clothes must be mended, even if towels and napkins are no longer

hemmed by hand. Rooms are still swept and dusted, beds are made, and chairs and tables put straight. Has any better means of giving experience ever been devised than these small, daily tasks which differentiate men from animals? The care of the fixed habitation, the foresight needed to prepare the things for the family life in the weeks and months to come, the coöperation of all the members of the family toward one common end—all tend toward high *human ideals*. If the wise mother only realized the value to the child of helping in such portions as are not too heavy, of being a part of the life, she would let nothing stand in the way of using this natural means of development. But with foreign domestics whose idea is to get the various duties over as soon as possible, and whose gift is not that of teaching, how is the child to grow into the normal ways of right daily living, unconsciously and effectively? ✓

If the parents continue to throw all the work of education on the school, then the school must take the best means of fulfilling the task.

Not only has the home put the burden of education on the school, but the school has drawn the child away from the home. The school of today demands much more from him than the school of the early New England days. It has taken the time that was formerly given to assisting in the duties of the household; it has taken from the home the interest and responsibility that were developed through the coöperation in the family life. School has taken the place of home in the child's thoughts. In the morning the thought is of reaching school in time, not of the home duties whose performance could lighten many a mother's burden.

The school, hurried with a curriculum that is wasteful of time and energy, lacking correlation in the studies (except in a few schools that are noted exceptions proving the rule), has little time to relate its work to the home as the kindergarten does in its morning talk; so there must come an intermediate step in order that the school may emphasize the home life and industries, and that a generation may grow up who shall

have a knowledge of the daily needs of life.

The interest awakened in the school will surely react upon the home. It is like an expedition going out to make discoveries and to bring back knowledge to its own land. The directive work of the school will thus become a practical realization in the home. Then the cycle will be complete, for while the school has separated the child from his natural environment for many hours and weeks, it is sending him back better equipped through knowledge and experience to fulfill his place there.

How shall the ends be gained artificially by devices of the school? For gained they must be, if civilization is to be maintained.

To quote from Isabel Bevier:

"As the home is so inseparably connected with the house, and our comfort and efficiency are so greatly influenced by the kind of houses in which we live, much of interest and importance centers in the study of the house."

Moreover, with the house, its evolution, decoration, and care, may be associated much

that is interesting in history, art, and architecture, as well as much that has a direct bearing on the daily life of the individual.

The philosophers have struggled for centuries, each contributing according to his experience and vision to determine what is the purpose of life. America's thought could be translated into the word efficiency. Yes, we might almost say she worships efficiency. If, then, efficiency is to be the goal, what are the means to develop it? Efficiency depends chiefly upon good health, and to maintain this we must first consider in the scheme of education the physical aids—food, air, water, clothing and shelter, exercise and rest—and with this goal in view must come also recreation, play or amusement, and beauty to develop the mental and the spiritual. In relating our scheme of work to this ideal we will consider first the shelter.

The children of ten or twelve years of age have passed the "make-believe" stage of play; they want the "real," but of their own kind and age. After little children have made and played with toys and fore-

shadowed the needs of the actual home, the time has come for the youth to have his demands, which are not yet the demands of man and manhood.

At the Tuberculosis Congress, held in Washington in 1908, a sanatorium in England, which won a prize, presented among many good features a system of graded work with graded tools, almost childlike implements for the weak and unskilled, gradually advancing toward the normal as the strength and health of the man grew. So it should be with the material we should give to the children.

After the toy age a house about two-thirds the ordinary sized house may be constructed. A room seven feet square is very livable for a child. Three rooms is a very good working plant—the kitchen and the bedroom, the dining and living room combined. Both boys and girls may co-operate in planning, building, and furnishing this home.

The plan of a modern house may be drawn, basing it on the knowledge of house architecture through history, of the modifi-

cation necessary to site through geography, and the knowledge that science has brought of drainage, ventilation, and construction. The house could be built by the manual training class, or if that is not feasible it may be built by one of the firms making portable houses. At all events, it can be painted by the children, and this will lead to lessons on color, the use of paint and its composition.

While the "shelter" is being constructed the child must be considering at the same time the principles of caring for the home, for this would naturally influence the thought of furnishing. The simply furnished home means less physical exertion, but not less beauty. The home planned and executed on scientific principles of hygiene and sanitation means a healthful home, a much cleaner home.

The shelter of the individual has been considered; now comes the immediate protection of the child—its clothing. It would not be quite practical in this little home to enter into the personal activities of bathing and dressing. A very large doll, approxi-

mating the child, may be used, one large enough so that it can wear boots, stockings, etc., that are usually bought for the real child. Here can be taught also the lesson in wise spending.

The right care of the body must be included among the necessities of education. The teaching of the principles of hygiene should be closely related to the lives of the children. Correct habits, not rules, are the proper prevention for all sorts of defects. To secure and maintain a healthy body, habits of cleanliness and enthusiasm for health must be inculcated. Such habits can be readily impressed on the body while it is plastic—that is, while it is young; but they are acquired only with difficulty and by much thought in after years. Hence there is the greatest economy of time and energy in accustoming young people to habits of daily living which will give them the best chance in after life—the chance to be “healthy, happy, efficient human beings.” Most of the teaching must be by indirect methods—illustrations—and so the doll may be used again to demonstrate and relate facts about the daily life.

An old Scotch writer once said, "He that would be good must be happy, and he that would be happy must be healthy." As has already been said, the great increase of disease from causes under individual control, such as that which is brought on by errors of diet, points to a need for a more general education in this respect. The food problem is fundamental to the welfare of the race. Society, to protect itself, must take cognizance of the questions of food and nutrition. It is necessary to give the child the right ideas on these subjects, for only then will there be sufficient effort to get the right kind of food and to have it clean. Right living goes further and demands the right manner of serving and eating the food. The home table should be the school of good manners and of good food habits of which the child ought not to be deprived.

If all the foregoing principles have been developed, if the child has been led to see the joy of living through these home activities, he will consider the home the true shelter, the place where he can have the happiest play, the easiest rest, where he can

study most earnestly, and express himself most honestly.

And the parents, the fathers and mothers of children of the city? How far are we helping the city dwellers to take advantage of city life? The principles back of house-keeping are the same, the end the same—what are to be the means to stimulate the modern home-maker? Show the possibilities within reach of them; send the children home with ideas which the mother must consider.

Education in pursuing the so-called “humanities” has been holding up to view a hypothetical man in a hypothetical environment. ✓

The pursuit of gold has not been hindered thereby, and has gone on without the restraints of education because of the complete detachment of ideals inculcated from the actual daily life where money meant personal pleasure and comfort for the time being.

The power over things gained by a few students was utilized by money power to hasten all progress. Speed was the watch-

word. No one could stop to see what injury he had caused. "Get there," really seemed to be the motto. In this scramble for power the "purpose" for which life is lived has been lost sight of. No "worthy aim" has been impressed on the mind of the child.

An awakening has come and the school is the leading factor in the upward movement. Education is coming to have a new meaning, or better, perhaps, is going back to the older meaning with new materials. No knowledge or power the youth may acquire will avail in real struggle for existence of the race without a definite aim to hold steady the eye fixed on a certain goal. This is a law of man's existence.

The change in point of view has been growing like a root underground. It seems to have suddenly sent up shoots in every direction. In no line of thought has this change come more generally than in relation to the things youth should be taught. Himself and his relation to his environment are now to the front. Instead of extolling man as the lord of all created things, the youth is made to see that man unaided

by scientific knowledge is at the mercy of Nature's forces; that man in crowds is sure to succumb unless he makes a strong effort to keep himself erect. ✓ ✓

Hence the boys are given manual training—power over wood and stone, steam and electricity; and are taught the principles of production of food and metals. The girls are being taught to distinguish values in textiles and food stuffs; to manage finances and to keep houses in a sanitary manner.

It is the business of the higher education at once to apply the knowledge of preventive measures to its own students and through them to reach the people, but it has been very slow to take up the cause of better environment.

In colleges there is still more emphasis laid on external works, such as water supply, drainage, etc., than on the more intimate hourly needs of fresh air and clean rooms. The halls, study rooms, and dining rooms of colleges are notoriously ill ventilated and not over clean.

The senses are blunted at an age when

they should be keenly sensitive. It is only within ten years or so that very many of the higher schools have made a point of indoor sanitation beyond plumbing provisions. Outdoor sports have been relied upon to give sufficient impetus to the health side of education.

V V A new element has come into the State universities through the Home Economics courses, which have been steadily growing in favor during the last two decades. Within that time several buildings have been erected and equipped to teach the principles of sanitary and economic living both in institution, school, and family life.

✓ Probably no one movement has been so powerful as this in convincing educators of the efficiency of trained women as factors in sanitary progress. In no other direction is the outlook for social service greater. The woman must, however, be more than a willing worker; she must be educated in science as a foundation for sanitary work.

Within the next few years the demand for trained women is sure far to exceed the supply, for the fundamental sciences are not to be acquired in one or two years.

Young college women are even now realizing their mistake in neglecting the sciences. They assumed that science was not of practical use. They assumed that educational curricula were stable and would go on in the same lines forever.

The high school is now fully awake to these vital factors. Some of the best buildings in the United States are the high school buildings, those of the West excelling those of the East. By 1911 nearly every school will have a course in Sanitary Science. It may be under the name of Home Economics, or of Camp Cookery, or of House Building, but the idea of better physical environment has already taken root. In the extension of school work by the employment of the school visitor to supplement the work of the teacher in the grade schools, in Parents' Associations, in Mothers' Clubs, in social endeavors on every side, there is coming the study of more special branches of sanitary science, clean air, clean floors, clean clothes—where once cooking lessons were the extent to which the workers could lead.

Evolution has at last been accepted as applying to man as well as to animals. In his inaugural address, November, 1909, President H. J. Waters, of Kansas Agricultural College, said: "... for every dollar that goes into the fitting of a show herd of cattle or hogs, or into experiments in feeding domestic animals, there should be a like sum available for fundamental research in feeding men for the greatest efficiency. . . . We have millions for research in the realm of domestic animals and nothing for the application of science to the rearing of children."

Evidence is not wanting that all this is to be speedily changed. Man has awakened to the fact that he is "the sickest beast alive" and that he has himself to blame, and, moreover, that it is within his power to change his condition and that speedily.

After all, human life and effort are governed largely by the conscious or unconscious value put upon the varied elements that go to make up the daily round.

It seems to be a universal law that effort must precede satisfaction, from the

infant feeding to the man building up a successful business. The satisfaction grows in a measure as the effort was a prolonged or sustained one.

Well-being is a product of effort and resulting satisfaction. The child without interest in work or play does not develop; the man with no stimulus walks through life as in a dream.

The first steps in "civilizing" (?) a nation or tribe are to suggest *wants*—things to strive for. Struggle, with all its attendant evils, seems the lever that moves the world. It is therefore in line that health, and whatever favors it, is to be gained at the expense of struggle. The one necessary element is that men should value it enough to struggle for it.

Sanitary science above all others, when applied, benefits the whole people, raises the level of productive life.

In the rapid development of our civilization, the laboratory, the shop, the school can be the quickest mediums of suggesting wants.

In an earlier chapter, the indifference to

clean conditions, the ignorance of the means of obtaining pure food and clean air, were dwelt upon, and still later the need of *will* to choose the right thing.

Now we should consider the means of stimulating that choice. So far it has been chiefly exploitation for the personal gain of the manufacturer, who has persuaded the people to buy his product regardless of its economic or hygienic effect. Thrift has been undermined most subtly.

"That's the secret of the whole situation we're talking about; it's easier to buy a new shirt than to take care of the one you've got."¹

All sense of values has been lost, so that with no sound basis choice is apt to be unwise, unsatisfactory, and is gradually dropped, while the individual drifts.

No more effective agent for the dissemination of knowledge was ever devised than the American Public School. If only it would live up to its opportunities, its teachers could bring to its millions of receptive minds the best practice in daily living

¹Meredith Nicholson, *Lords of High Decision*, p. 133.

(never mind the theory for the children), and through the children reach the home, where the infants may be saved from the risks that the elders have run.

To be effective, however, school conditions should be satisfactory, and teachers should be familiar with the best ways of living, or at least in active sympathy with the medical inspector and the school nurse.

No more revolting revelations have ever been made than those usually locked in the hearts of these faithful servants of the people. How they can have courage to go on in face of parental and community indifference is a marvel. We shall consider in the next chapter how the average parent is to be aroused.

But the leaders in educational and scientific thought—what of them? The school is the pride of the community and measures the progress of the community toward ideals. Alas, how is pride laid low in most public school buildings in the inability of most of the teachers to see the relations between mental stupidity and bad air.

The awakening has begun, however,

and thousands of teachers have responded and are urging authorities to burn more coal, to employ more help, to keep the house clean, to make it more beautiful, to make the curriculum more helpful, to make provision for good food to be purchased, and the hundred ways in which the school may be the most powerful civilizing factor the nation has. *But civilization must not spell disease and ruin.*

The economic factor must not be lost sight of. To tell the boy and girl that they are as good as any does not give them the right to the most expensive food and clothing they see. How shall they choose wisely in the multitude of new things? They wish the best, naturally, and all America is honeycombed with the wrong idea that the best costs the most. An Alaska Indian came into the store in Juneau one day to buy some common peas. The storekeeper said, "I am out of the brand you want." "No peas?" asked the Indian. "No, only some small cans of French peas at forty cents a can. You don't want those." "Why not? Me want the best."

The schools of domestic economy, the classes in all grade schools, will have to attack and conquer these prejudices as to values, or, rather, will need to substitute right estimates of value before our people will choose wisely in distributing their income, for that is what right living means. The division of the income according to the necessities of health and efficiency, not according to whim or selfish desire, is sometimes estimated as

20 to 25 per cent for rent

25 to 30 per cent for food

10 to 15 per cent for clothing

This leaves only forty-five or thirty per cent for other things, and the pennies must be carefully counted to cover fuel, light, amusements, education, books, insurance, or investments. Something that the family would like must be left out—no matter what, providing only it does not injure their efficiency as wage-earners, as comfortable human beings.

The sensation of comfort or satisfaction is so completely a psychic factor that the school training has a great chance to affect

after life. The child can acquire the habit of being more comfortable in plain, washable, clean clothes, with clean hands, than in dirty, ragged furbelows. This habit once thoroughly acquired is not likely to be quickly lost. Provision for clean hands is a necessity in school, and ways of making a small amount of soap and water serve may also be taught. All the while, care is to be taken not to introduce unnecessarily expensive materials or to inculcate over-refined notions.

Sound instruction as to dangers of transference of saliva, of nose discharge, etc., can be given without also giving the despair of impossible achievement.

The teaching in the classes must have this practical bearing on daily life. It is insisted on here because unclean hands are the chief source of infectious disease.

Instead of blaming water supplies, dusty streets, or even contagion by the breath, sanitarians are everywhere putting emphasis upon the actual contact of moist mucus with milk and other food, in preparation or in serving. It is not a supercilious notion

to examine tumblers for finger marks, or to object to the habit of wetting the finger with saliva in turning leaves of books. These little unclean acts are the unconscious habits that cling to a person in spite of education from reading. The greatest service to be done today in improving the health of the community is in the application of the principles which may be summed up in the phrases—fresh air all the twenty-four hours, clean hands the livelong day, the free use of the handkerchief to protect from contamination of mouth and nose.

All these small personal habits should be taught in the earliest months of life, *i. e.*, in the home; but if the child reaches school untaught, then in defense of the whole community the school must insist upon teaching them.

CHAPTER VII

Stimulative education for adults. Books, newspapers, lectures, working models, museums, exhibits, moving pictures.

The efficient sanitarian is not so great when he conquers a raging epidemic as when he prevents an epidemic that might have raged but for his preventive care, and for this result his most continuous and effectual work is to educate — educate — educate.

Wm. H. Brewer, New Haven Health Association, 1905.

2 [The essential fact in man's history to my sense is the slow unfolding of a sense of community with his kind, of the possibilities of coöperation leading to scarce-dreamt-of collective powers, of a synthesis of the species, of the development of a common general idea, a common general purpose out of a present confusion.

H. G. Wells, First and Last Things.

The great mass of the population is, indeed, at the present time like clay which has hitherto been a mere deadening influence underneath, but which this educational process, like some drying and heating influence upon that clay, is rendering resonant.

H. G. Wells, New Worlds for Old.

CHAPTER VII

In a store an advertisement reads : " Any kind of tea you prefer ; no charge whatever."

She : " The women look so tired when they come in, and in ten minutes they are so rested and refreshed."

He : " Ready to go home ?"

She : " Why, no — ready to do some more shopping."

Spectator, The Outlook, December 18, 1909.

SOMETHING in motion and something to eat attract the crowd.

The social worker is just beginning to realize what the manufacturer and the department storekeeper have long since found out.

Why is it not legitimate to "attract a crowd," to do them a good service in showing them how to save money as well as in impelling them to spend it? It is wiser to *show how* before explaining why.

The force of example, the power of suggestion, should be used fully before coercion is applied. Exhibits and models come before law.

The psychology of influence is an inter-

esting study (see Münsterberg's article, *McClure's*, November, 1909). Its principles have been grasped and used by those who exploit human feelings for their own gain. The student of social conditions should make a wider and better use of a real force.

Publicity is perhaps first. Exhibits showing existing conditions often shock people into attention, for it is inattention more than anything else that prevents betterment.

It is said that "a knowledge of danger is the surest means of guarding against it," but this knowledge must be translated into belief and the danger be brought home to the individual as a member of the community.

Exhibits may often suggest for existing evils simple remedies never thought of before. They should never suggest the one idea without the other. Even though the remedy is not worked out, it should be called for. America's inventive power may well be turned on its own social affairs as well as on adaptation of European machinery.

The man considered in these pages is the man in community environment, and the discussion is as to what controls this community life. It will be acknowledged by all thoughtful persons that the prime control lies in the purpose for which the community exists. If for selfish gain, then all is sacrificed to that end. Men and women become mere machines and children are only in the way until they, too, may be put into the service.

If it exists for mutual help and general advance in civilization, then the leaders in the community take into account the elements that contribute to the future as well as those for the immediate present.

In the confusion of ideas resulting from the rapid, almost cancerous growth of the modern community, made possible by mechanical invention, the people have lost the power of visualizing their conception of right and wrong, a power which made the Puritan such a force in early colonial times. Heaven and hell were very real to him and were powerful factors in influencing his daily life. The average man today has no

such spur to good behavior. Perhaps the sword of Damocles must be visualized by such exhibits as the going out of an electric light every time a man dies, by the ghastly microbe in the moving picture, by the highly colored print or by a vivid reproduction of crowded quarters. The social worker has been doubtful of the real value of such exhibits, but such reminders have their place in a community accustomed to the advertising of less worthy subjects.

A decided recognition of the value of exhibits is found in the advertisement of a company: "We design and equip Exhibits on Tuberculosis, Milk, Civic Betterment, Dental Hygiene, Saner Fourth of July. Have you our catalogue?" Much of our educational work for the dissemination of useful knowledge would gain in power and directness from an adaptation of the methods of the man skilled in promoting commercial interests. He knows how to apply the right stimulus at the right time in order to arouse the desired interest.

In many ways the adult is but the child of a larger growth, who needs something

concrete to make him understand. And so have grown up the great industrial fairs and exhibitions. One comes away from these wondering that so much, both good and bad, is being prepared for him, and stimulated, usually, to work out certain suggestions and better many of the present conditions. Both the manufacturer and the consumer have been helped.

Wherever it is possible, a working model illustrating the chief features to be explained should be installed. The expense of this kind of exhibit has in the past been prohibitive, and moreover the use of such "claptrap" has been frowned upon; but scientific knowledge is no longer to be held within the aristocratic circle of the university. It is to be brought within the reach of the man in the street, and to make up for the wasted years of seclusion experts now vie with each other in putting cause and effect not merely into words but into pictures, and even into motion pictures. The fly as a carrier of disease is now shown in all its busy and disgusting activity. The lesson of awakened attention by such means

is being learned, and soon lessons in botany, in gardening, in housewifery, will be given through the eye, to be the better followed by the hand.

✓ Of all means, that product of man's ingenuity, the moving picture, is destined to play the greatest part in quick education. It is the quintessence of democracy.

✓ The extension movement in education is an evidence of a new social ideal. It is a true expression of democracy that the university and school can be utilized by the busy working people. Museums that at one time were only for the educated who by previous training could understand them now assume as a privilege the educating of all the people. Schools of art and science, also, through lectures, bulletins, guides, and special exhibits, extend a generous welcome to the public.

The citizens ought to be a gladder, sadder people, stirred and delighted and grateful for much that the city affords; sad and shocked by some of the forbidding, existing conditions. That is the power of an exhibit, so to visualize a condition that the mind

really conceives it, never again to recover from the shock, to be unmindful of such possibilities of degraded existence for human beings.

The influence of these great expositions is of a most subtle kind, not often to be traced, but there is a noticeable change in the estimation in which Home Economics is held dating from the time of the Mary Lowell Stone Home Economics Exhibit held at the Exposition in St. Louis in 1905. This illustrated the application of modern knowledge to home life, chiefly in economic and æsthetic lines, all bearing upon the health and efficiency of the people. The Chicago Exposition in 1893 had its Rumford Kitchen, an exhibit under the auspices of the State of Massachusetts. This practical illustration of scientific principles modified the ideas of the world as to the place and importance of cookery in education. Indeed, there seemed a distinct danger that other lines would be neglected, so that when the Exposition at St. Louis was determined upon this legacy of fifteen years before was drawn upon to show the wide scope of the subject as it had been developed.

Boards of Health might pave the way for a better understanding of their rules and regulations if they would have temporary exhibits in public places of some of the conditions known to them but unsuspected by the average citizen and taxpayer.

Traveling exhibits may show local and temporary conditions and may call attention to needs demanding immediate remedy—with the remedy suggested.

Permanent exhibits in museums should, on the other hand, teach a deeper lesson. They should always be constructive and should be replaced when the conditions have changed. The modern idea of a museum is a series of adjustable exhibits with distinct suggestive purpose. Such are found in the Town Room, 3 Joy Street, Boston, the Social Museum, Harvard College, the American Museum of Safety, and the Sanitary Science Section, American Museum of Natural History, New York.

The distribution of the printed word has become so universal that it would seem as if every family might be influenced by it; but the scientific title, or the size of the

book, or the scientific terms seem forbidding, and so the whole question is thrust aside.

In the past, newspaper science was largely discounted as sensational and only one-tenth fact. Scientific workers were largely to blame for this. They could not take the time to explain the meaning of their work, and the few things they were ready to say were worked over out of all semblance to truth by the writer who must have a "story" and who had not the training in "suspension of judgment" which the scientific investigator knows to be necessary.

There is no concern of human life that cannot be made interesting, and the magazine writers of today understand that art. Read the newspaper and the world is yours. It is all things to all men. The popularizing of knowledge is now proceeding on somewhat better lines. Intermediaries between the laboratory and the people are springing up to interpret the one to the other. This work is good or bad according to the individual writer. Most of it is still too superficial. Here is one of the most

fertile fields for the educated woman, since the evils of which we complain have to do so intimately with woman's province, the home and the school. There is hope that the trained, scientific woman will take her place as interpreter. Her practical sense will give her an advantage over the young man who has never known other home than a boarding house.

✓ || But the expert knows that the man of "practical affairs" wants and needs certain knowledge, and so seeks another way. Our Federal government, through the departments of Agriculture and Education; the ✓ State Boards of Health; the educational institutions, have with care and accuracy formulated this knowledge and are sending to ✓ the people, in the form of bulletins meeting their interest and requirements, knowledge in concise and readable form, and so most valuable. One hundred and fifty thousand ✓ of Miss Maria Parloa's bulletin on Preserving have been distributed by the Department of Agriculture.

These efforts by both men and women have meant independent scientific research,

which is often the only available knowledge for the housekeeper. It is bringing to them in their "business" of life the same help that the men on the farm and elsewhere are receiving in theirs.

But the written word, however clearly put, can never reach the untrained as can the voice and personality of an earnest speaker with a compelling vitality. Lectures by those who have been engaged in research themselves, so that they have absorbed the spirit of the laboratory—not by those who have merely smelled the odors of the waste jars—are ten times more valuable than even the most attractively illustrated articles. It is well that the personality of the human being is an asset, and that there is a stimulus in hearing and seeing the person who has accomplished things. There is always a power in the spoken word. The government, with its public lectures, recognizes this as well as the private organization, and today ignorance is necessarily due only to indifference.

Illustrated lectures followed by literature are of inestimable value if rightly and

not sensationally given. Even then, the seed must have time to sprout.

Man has reached his present stage of civilization, however we regard it, by an incessant warfare against adverse conditions. Enemies, man and beast, surrounded him; mountains and rivers obstructed his passage; fire and flood swept away his dwellings; but ever onward the inward impulse has carried him.

It is interesting to see how the same vocabulary is transferred to the warfare for social betterment, "campaign," "warfare," "battle," "fight," "weapon," "corps," "army." And the fight to be won can only come through knowledge, its dissemination and then its application.

Publicity today means coöperation and democracy—all to help, all to be helped.

All the foregoing methods should be used in these campaigns for health, with the dictum, "Man, know thyself."

CHAPTER VIII

Both child and adult to be protected from their own ignorance. Educative value of law and of fines for disobedience. Compulsory sanitation by municipal, state, and federal regulations. Instructive inspection.

The strength of the State is the sum of all the effective people.

Dr. Edward Jarvis, Massachusetts State Board of Health, 1874.

When the Americans took charge of Bilibid Prison in Manila the death rate was 238 per 1,000 per year: by improving sanitary conditions, this death rate was reduced to about 75 per 1,000: here it remained stationary until it was discovered that a very high percentage of the prisoners were infected with hookworms and other intestinal parasites: then a systematic campaign was inaugurated to expel these worms, and when this was done the death rate fell to 13.5 per 1,000. *C. W. Stiles.*

So the duties and responsibilities of a Health Department are not only changed, but they are very greatly increased and are constantly increasing. And on broad lines to cause the citizen to do the things he can and ought to do, and then to do for him the things that he cannot do, but which should be done, is the duty of the State, and that, being interpreted, means the real prevention of disease.

Eugene H. Porter, Report, New York State Department of Health, 1909.

The whole difference of modern scientific research from that of the Middle Ages, the secret of its immense successes, lies in its collective character, in the fact that every fruitful experiment is published, every new discovery of relationships explained. In a sense, scientific research is a triumph over natural instinct, over that mean instinct that makes men secretive.

H. G. Wells, New Worlds for Old.

Public or governmental hygiene has been chiefly concerned with pure air and pure food, and with organisms producing epidemic diseases. Boards of health are a recent invention, and in this country they have as yet been only imperfectly developed. They can never become the power they should be until, first, public opinion better realizes their usefulness and the fact that their cost to the taxpayer is saved many times over by the prevention of death and disease; second, more and better health legislation is enacted—national, state, and municipal; and, third, special training is secured for what is really a new profession, that of a public health officer.

Report on National Vitality.

CHAPTER VIII

LEGISLATIVE COMPULSION

GOVERNMENT is delegated to persons specially set apart for the oversight of the people's welfare.

Personal conduct was free from such delegated power in the Anglo-Saxon thought. The Englishman's house was his castle inviolate. This was especially true of the early American settlers. Laws interfering with personal liberty, a man's right to drink tea, to punish his own children, to beat his own wife, to keep his own muck-heap, have been deeply resented by the American citizen. Each step in the protection of his neighbor has been taken only by a struggle extending the common law of nuisance to a variety of conditions.

The protection of the man against himself, and of his wife and child against his ignorance or greed, is one of the twentieth century tasks yet hardly begun.

The control of man's environment for

his own good as a function of government is a comparatively new idea in republican democracy. The cry of paternalism is quickly raised, on the one hand, of socialism, on the other. Each gain has been at the cost of a hard-fought battle. But it is certain that the individual must delegate more or less of his so-called rights for the sake of the race, and since the only excuse for the existence of the individual is the race, he must so far relinquish his authority.

It is a part of the urban trend that the will of the man, of the head of the family, should be superseded by that of the community, city, state, nation.

Even though all the agencies for the education of both young people and adults that have been discussed in the preceding chapters were set in motion at once, there would still remain many thousands in township and city untouched by these forces, or so touched as to arouse rebellion against such novel notions.

Only the child can be educated to acquire habits of right living so perfectly that the suitable action takes place unconsciously.

Twenty years hence these trained children will be the chief citizens of the republic, the leaders of public opinion. Today, however, less gentle means, less gradual processes, must be used in order that these children may have a chance to grow up.

In the social republic, the child as a future citizen is an asset of the state, not the property of its parents. Hence its welfare is a direct concern of the state. Preventive medicine is in this sense truly State Medicine, and means protection of the people from their own ignorance.

In the laws made with this end in view lies one of the greatest educative agencies known. We have referred in the last chapter to the need of drawing attention to defects and dangers in order that people may know what the results of their careless ways may be. No surer way has been found to fix attention than to attempt to enforce a law or collect a fine for disobedience of it. A marked illustration of this truth is given in the case of the ordinance against spitting in street cars. In many cities a notice was posted in each car—usually with little

effect. In some a fine of five dollars was added, with little more result. Boston was one of the first cities to pass an ordinance, and it accompanied the law with a fine of one hundred dollars. This compelled attention—a sum which represented to the workman more than his yearly savings, more than any single expenditure. To the business man, even, it was a sum not to be lightly dropped on a filthy car floor. This mere statement of the value of cleanliness made an almost instantaneous change in the habits of thousands. Within two days the car floors became practically free without a single fine being collected within that time, as far as the author is aware.

The law imposing fines for neglect of removal of garbage or of screening stables must be occasionally enforced in order to express degree of disapproval. A petty fine is of little use.

Conditions of motion, of rapid intermingling of distant populations—a thousand miles in a day is now possible—make national control a necessity. It is proved that quick results may be gained in sav-

ing lives and property by that prompt and thorough action which well-equipped Federal forces alone possess. The stamping out of yellow fever in Cuba, the redemption of Panama, the suppression of sporadic outbreaks at New Orleans, the quick response to a discovery, as in the cases of pellagra and the hookworm—all these show what a thoroughly alive government may do. ✓

It is no disgrace to an individual or a city to have the national laboratory make discoveries, to have the national power put down epidemics, as it does civil rebellion, for the good of the whole nation. It is disgraceful, however, for the citizen to remain indifferent or obstructive, to grumble over the cost. The indifference of the people themselves is today almost the only stumbling block to national prosperity.

The time lost to the average worker by inefficient labor is a drain on the community largely avoidable, and is the cause of that other drain on the moral as well as physical vitality—charity.

Preventive medicine is a science by it-

self, a combination of social and scientific forces guided by research quickly applied, and it must be accepted and upheld by those whom it benefits, namely, all the citizens. The nation is in many cases the only power strong enough to command confidence, and in the combination of government effort an international science of human welfare is bound to be evolved.

It is a waste of effort for each state to prepare a fly pamphlet. The correctness of a Government Bulletin would give an added value as well as the rapidity of circulation. The bulletins of the Agricultural Department are an example.

The Weather Service, with its quick notifications, shows what a health service might do. A monthly or weekly *health chart* would give the best and worst spots.

Precautions really workable might be furnished the Associated Press.

In short, system and science might be put at the service of the local health officer, of the traveler, and even of the housewife.

The Library of Congress now furnishes cards in duplicate to a large number of

centers, thus saving time to the investigator and giving information often not otherwise obtainable.

The Farmers' Bulletins of the Department of Agriculture are also most valuable to the people who are in search of help. Such agencies might be extended without fear of trespass on any existing agencies.

Just as the individual, if he is to do and be his best, accepts his limitations, obeys Nature's law, and thrives in body and estate in consequence, and as the community banding together makes and carries out with penalties for deviation certain regulations for mutual benefit, so must the still larger groups—the state and the nation—use their larger wisdom and wider knowledge for the benefit of all. The individual should recognize the value to himself of this more complete investigation, and instead of raising the cry of paternalism and national interference, should welcome all aids to increased efficiency.

State hygiene is necessary to supplement municipal hygiene. Often the rural district has no other hygiene, and the city and the

country are interdependent, the city dependent upon the country for its water, milk, and other supplies.

Almost all the states are alive to the importance of milk inspection. As early as 1869 in Massachusetts, Dr. Bowditch called the Board of Health "The State Medicine," and quotes from Dr. Farr: "How out of the *existing* seed to raise races of men to divine perfection is the final problem of public medicine." That is the function of all boards of health. If factories are incorporated under state laws, they must also be governed by the state regulations for health.

Here in America we are always locking the stable door after the horse has been stolen. Not until many "accidents" had occurred in the use of antitoxins did Congress pass an act (1902) regulating the manufacture and interstate sale of the viruses, serums, toxins, etc. The supervision and control were vested in the Secretary of the Treasury through the Public Health and Marine Hospital Service. Previous to April 1, 1905, there was no official standard for measuring the strength of diphtheria

antitoxin. Previous to October 25, 1907, there were as many units or standards for tetanus antitoxin as there were producers. One was labeled "6,000,000 units per c.c." and another "0.75 unit per c.c.," while, according to official standard, the first had only 90 and the latter 770.

The point to be made is that however faulty an official or Federal standard for sanitary devices may be, it is a standard, and so is of service in protecting the people, especially those away from active centers of research.

CHAPTER IX

There is responsibility as well as opportunity. The housewife an important factor and an economic force in improving the national health and increasing the national wealth.

It would indeed seem that opposition to woman's participation in the totality of life is a romantic subterfuge, resting not so much on belief in the disability of woman as on the disposition of man to appropriate conspicuous and pleasurable objects for his sole use and ornamentation. "A little thing, but all mine own," was one of the remarks of Achilles to Agamemnon in their quarrel over the two maidens, and it contains the secret of man's world-old disposition to overlook the *intrinsic* worth of woman.

W. I. Thomas, Women and Their Occupations, American Magazine, October, 1909.

The president of the British Medical Association about 1892 said, "I wish to impress it upon you that the whole future progress of sanitary movement rests, for its permanent and executive support, upon the women of our land."

In a letter to Madame Bodichon, dated April 6, 1868, George Eliot writes: "What I should like to be sure of as a result of higher education for women—a result that will come to pass over my grave—is their recognition of the great amount of social *unproductive* labor which needs to be done by women, and which is now either not done at all or done wretchedly."

Quoted by Mrs. Nixon in a paper before the Conference of Women Workers in England, 1904.

CHAPTER IX

WOMAN'S RESPONSIBILITY

THERE are about 40,000,000 women and girls in the United States. About 14,000,000 live in the country and have a direct and compelling power over the life of the community.

In rural agricultural districts the home-keeper is the provider. She practically requisitions from farm and garden what she deems necessary for the family table. To an extent she makes the clothing and sews the house linen. She also exchanges her perquisites, egg money, perhaps, for furniture and ornaments. The itinerant peddler brings the world's wares to her door; the mail-order houses do the rest.

"The ideal home is a social and coöperative society in which all of its members unite their efforts for the common good. This ideal is realized most nearly in the country home, where even the smallest child has opportunity to be and generally is a con-

tributor to the family support. It has come to be a recognized fact that boys and girls, healthy, industrious, frugal, capable, intelligent, self-supporting, cheerful, and patriotic, abound in country homes, and that the prevalence there of these high qualities is largely due to the family life, which requires each individual from his earliest years to bear his proportionate share in providing for the maintenance of the home. By bringing within the reach of the country people educational advantages suited to their needs, rural life becomes more attractive, country homes are multiplied, and the valuable qualities which these homes develop become the possession of a correspondingly larger number of the citizenship of the state."¹

The government has recognized the need and the possibilities of meeting it in the recognition it has given to Farmers' Institutes for women, in which, by lectures, demonstration, and short winter courses at the colleges, the interest of the woman in her occupation is aroused. She is not only given

¹ I. H. Hamilton, U. S. Dept. of Agriculture, Circular 85.

help in details of her daily work, but she is shown how much the efficiency of the farm life depends upon her capability and intelligence. She is encouraged in the using of all mechanical and scientific appliances, is introduced to the means of mental growth; but, best of all, she is given the stimulus of social recognition. In the year 1908 there were held 832 such meetings in the several states. In the year 1910 the number will be nearly or quite doubled.

In no other form of society is the power of the woman for good or ill so paramount as in rural life, in no other mode of living is the family so much at her mercy.

In suburban and city life the family can in a measure escape from insufficient care and uncomfortable conditions. That they do so escape, any student of social tendencies will testify. The great increase of restaurants, of clubs and hotels of all grades, shows one phase of the unattractiveness of home life. The city woman is only half a housekeeper; she has only one-eighth of a house as compared with her rural sister. Her control is therefore curtailed until she

feels her helplessness in the hands of her landlord. She sighs and turns to other interests. To her must be brought the knowledge of her power as a social factor if she will but use the knowledge she can easily gain.

✓ The city woman has amused herself because she has seen nothing better to do with her time. The utilization of her ability is all that is needed to regenerate city life. Without it all efforts will prove fruitless. Education of all women in the principles of sanitary science is the key to race progress in the twentieth century.

✓ x As an economic factor, the influence of the housewife is of the greatest moment. Production on the farm is only one phase. The city and suburban dweller is a buyer, not a producer. In suburban and city life the housekeeper has more temptations to buy needless articles, food out of season, to go often to the shops, especially on bargain days. She thinks her taste is educated, when it is only aroused to notice what others like. She is led to strive after effects without knowing how to attain them. It has been

estimated by advertising experts that ninety per cent of the purchases of the community are determined by women, not always according to their judgment, but by a suppression of it. Woman is made to think that she must buy certain lines of goods. The power of suggestion has been referred to in a preceding chapter.

When civilization, as it is called, persuaded woman to give up manufacture and to become a buyer, the first step in the disintegration of the home as a center of information, as well as of industry, was taken. The housewife and mother were made to look to the dealer, and thus to feel their helplessness. This sense of ignorance, this subconscious loss of power over things, only increased the effect of that fatalism which the control of machinery was leading man out from under.

It is barely fifty years since woman began to ask questions and insist upon knowing, to claim freedom of movement, a chance to breathe. The time between has been a time of plowed fields, often muddy, usually stony, but the furrows are turning green and

the harvest will prove the wisdom of the plowing.

Woman had to struggle for right to private judgment and public action. Some pioneers had to enter the field of research, of investigation, in order that they might call to those below that the way was open. This vast company, which has been nearly untouched by the scientific spirit, was warned off the field of investigation, and society is paying the penalty of its own blindness.

In the very field where applied science can most serve human welfare, scarecrows have been set up most prominently. Not until society avails itself of those qualities of mind sorely needed in the field of sanitary science, patient attention to detail, strong, practical sense directed by a profound interest in the subject, will it begin to show what height it is capable of scaling.

The intrusting of so many great fortunes to women shows an increasing confidence in their judgment of social needs. It shows that woman's education has passed the selfish stage, that it has given a wider vision of the whole horizon.

It may be said without fear of contradiction that the future well-being of society is largely in the hands of woman. What will she do with it? Responsibility is always sobering.

Let her once realize her position and woman will rise to the task. Instances are not wanting of groups attacking scientific and administrative problems in the true spirit, without sentimental charity, to which in the past women have been prone.

If civic authorities felt that women's leagues were informed bodies of women whose suggestions they would make no error in adopting, more legislation could be effected. Too often city councils are approached by those who favor some whim or fad, and so ALL women's demands are classed together. Much harm has been done to the cause by indiscreet, pushing women with only a glimmer of knowledge. The question is not WOMAN, but ability and women. It is better, as a rule, to work out ideas through existing organizations.

All the problems of environment which we have been considering would be solved

in half the time, yes, in one-quarter, if all housewives would combine in carrying out the knowledge which some of them have and which all may have.

Infant mortality is controllable through the training of the mother and nurse. Unsanitary houses are the results of careless housekeeping, usually a product of apathetic fatalism. Landlords assume that the woman will submit. When she has a woman sanitary inspector to appeal to, matters will take on a different aspect.

Unsanitary alleys exist because the abutters do not complain loudly enough to the right authorities. Dirty markets have been so long tolerated because women buyers carried the same fatalism to the stalls—"what is, has to be."

Society is only just beginning to realize that it has at its command today for its own regeneration a great unused force in its army of housewives, teachers, mothers, conscious of power but uncertain how to use it. Perhaps the most progressive movement of the times is one led by women who see clearly that cleanness is above charity, that moral

support must be given to those who know but do not dare to do right, and that knowledge must be brought to the ignorant. Nothing can stop this most notable progress but a relapse into apathy and fatalism of the vast army of women now being enlisted to fight disease.

The opportunity has come, the responsibility is woman's hereafter. No one can take it from her; she has knowledge. The door has opened, she has taken the weapons in hand, is learning to use them. Will she falter on the eve of victory simply because it involves some sacrifice of prejudice or tradition? Must she not boldly accept the twentieth century challenge and fight her way to victory, even at some æsthetic sacrifice? In another hundred years, then, Euthenics may give place to Eugenics, and the better race of men become an actuality.

The keeping of the house, the laundry work, the cleaning, the cooking, the daily oversight, must have for its conscious end the welfare of the family. It cannot be done without labor, but the labor in this as in any process may be lightened by thought and by machinery. ✓

✓ Knowledge of labor-saving appliances is today everywhere demanded of the successful establishment EXCEPT of the family home. Is it not time that it came in for its share? If the housewife would use wisely the information at her hand today, it is safe to say that in six cases out of ten she could cut in half the housekeeping budget and double the comfort of living.

As conditions are, the twentieth century sees a strange phenomenon—the most vital of all processes, the raising of children, carried on under adverse conditions; human labor and life being held of as little account as in the days of building the pyramids.

Women may be trained to become the economic leaders in the body politic. It is doubtful if life will be anything but wasteful until they are trained to realize their responsibility.

The housewife was told that she must stay at home and do her work. This was preached *at* her, written *at* her, but no one of them all, save, perhaps, the Englishmen Lecky and H. G. Wells, saw the problem in its social significance, saw that the work of

home-making in this engineering age must be worked out on engineering principles, and with the coöperation of both trained men and trained women. The mechanical setting of life is become an important factor, and this new impulse which is showing itself so clearly today for the modified construction and operation of the family home is the final crown or seal of the conquest of the last stronghold of conservatism, the home-keeper.

Tomorrow, if not today, the woman who is to be really mistress of her house must be an engineer, so far as to be able to understand the use of machines and to believe what she is told. Your ham-and-eggs woman was of the old type, now gone by in the fight for the right to think.

The emergence from the primitive condition was slow because the few of us who did show our heads were beaten down and told we did not know. It has required many college women (from some 50,000 college women graduates) to build and run houses and families successfully, here one and there another, until the barrel of flour has been

✓ leavened. Society *is* being reorganized, not in sudden, explosive ways, but underneath all the froth and foam the yeast has been working. The world is going to the bad only if one believes that material progress is bad. If we can see the new heaven and the new earth in it, then we may have faith in the future.

The human elements of love and sacrifice, of foresight and of faith, are going to persist, and any apparent upheaval is only because of settling down into a more solid condition, a readjustment to circumstances. As Caroline Hunt has said¹: "We may disregard the popular fear that the home will finally take upon itself the characteristics of a public institution. . . . Human intelligence, which suits means to ends, and which is ever coming to the aid of human affection, will prevent that. So long as affection lasts it will seek satisfactory expression in home life, and so long as intelligence endures it will stand in the way of the extension of the borders of the home beyond the possibilities of the mutual helpfulness to its members."

¹ Home Problems from a New Standpoint, p. 140.

The persistent efforts of the farsighted to secure a place in education for the subjects fundamental to the modern home are now respectfully listened to.

It is, perhaps, not strange that the first successes in modern housekeeping were gained in public institutions, for there accounts were kept and saving told. When one hospital saved \$12,000 in one year by an expenditure of \$2,000 for a trained woman, trustees began to take notice. When large state institutions were reorganized and made over from unsavory scandals into reputable and life-saving establishments, even legislators took notice. The trained woman superintendent proved not only more competent but less affected by perquisites.

(I do not vouch for the universal maintenance of this high standard when women managers have had longer experience; but so far conscience and sterling integrity have been attributes of all my expert women, even if they have now and then disappointed me in endurance or in ability. Is not this a fact of great social significance?)

It is universally conceded today, only a few willfully blind or croaking pessimists dissenting, that home-keeping under modern conditions requires a knowledge of conditions and a power of control of persons and machines obtained only through education or through bitter experience, and that education is the less costly.

When social conditions become adjusted to the new order, it will be seen how much gain in power the community has made, how much better worth the people are. Have faith in the working out of the destiny of the race; be ready to accept the unaccustomed, to use the radium of social progress to cure the ulcers of the old friction. What if a few mistakes are made? How else shall the truth be learned? Try all things and hold fast that which is good.

The Home Economics Movement is an endeavor to hold the home and the welfare of children from slipping over the cliff by a knowledge which will bring courage to combat the destructive tendencies. Is not one of the distinctive features of our age a forcible overcoming of the natural trend

of things? If a river is by natural law wearing away its bank in a place we wish to keep, do we sit down and moan and say it is sad, but we cannot help it? No, that attitude belonged to the Middle Ages. We say, Hold fast, we cannot have that; and we cement the sides and confine or turn the river.

The ancient cities whose ruins are now being explored in Asia seem to have been abandoned because of failure of the water supply as the earth became desiccated; so was the home of our own Zunis. Does such a possibility stop us? No, we bring water from hundreds of miles. Will man, who has gained such control over nature, sit down before his own problems and say, "What am I going to do about it?"

What if the apparent motion is toward cells to sleep in, and clubs to play bridge in, and amusements for evenings, and a strenuous business life, run on piratical principles, into which the women are drawn as decoy ducks? Because this *is*, is it going to be, as soon as a good proportion of the thinking people stand face to face with the problem?

I believe it is possible to solve the problem, but only if the aid of scientifically trained women is brought into service to work in harmony with the engineer who has already accomplished so much.

Household engineering is the great need for material welfare, and social engineering for moral and ethical well-being. What else does this persistent forcing of scientific training to the front mean? If the State is to have good citizens, productive human beings, it must provide for the teaching of the essentials to those who are to become the parents of the next generation. No state can thrive while its citizens waste their resources of health, bodily energy, time and brain power, any more than a nation may prosper that wastes its natural resources.

The teaching of domestic economy in the elementary school and home economics in the higher is intended to give the people a sense of *control* over their *environment* and to avert a panic as to the future.

The economics of consumption, including as it does the ethics of spending, must have a place in our higher education, pre-

ceded in earlier grades by manual dexterity and scientific information, which will lead to true economy in the use of time, energy, and money in the home life of the land. Education is obliged to take cognizance of the need, because the ideal American homestead, that place of busy industry, with occupation for the dozen children, no longer exists. Gone out of it are the industries, gone out of it are ten of the children, gone out of it in large measure is that sense of moral and religious responsibility which was the keystone of the whole.

The methods of work imposed by housing conditions are wasteful of time, energy, and money, and the people are restive, they know not why. As was said earlier, shelter was found by early students of social conditions to be most in need of remedy, so we see that

“In the first place the state is beginning to offer positive aid to secure a suitable home for each family. A communistic habitation forces the members of a family to conform insensibly to communistic modes of thought. Paul Goehre, in his keen observa-

tions printed in 'Three Months in a German Workshop,' interpreted this tendency in all clearness. The architecture of a city tenement house is to blame for the silent but certain transformation of the home into a sty. Instead of accepting this condition as inevitable, like a law of nature, and accepting its consequences, all experience demands of those who believe in the monogamic family, that they make a united and persistent fight on the evil which threatens the slowly acquired qualities secured in the highest form of the family. It would be unworthy of us to permit a great part of a modern population to descend again to the animal level from which the race has ascended only through æons of struggle and difficulty. When we remember that very much, perhaps most of the progress has been dearly purchased at the cost of women, by the appeal of her weakness and need and motherhood, we must all the more firmly resolve not to yield the field to a temporary effect of a needless result of neglect and avarice. As the evil conditions are merely the work of unwise and untaught communities, the

cure will come from education of the same communities in wisdom and science and duty. What man has marred, man can make better."¹

It is not impossible to furnish a decent habitation for every productive laborer in all our great cities. Many really humane people are overawed by the authority, the pompous and powerful assertions of "successful" men of affairs; and they often sleep while such men are forming secret conspiracies against national health and morality with the aid of legal talent hired to kill. Only when the social mind and conscience is educated and the entire community becomes intelligent and alert can legislation be secured which places all competitors on a level where humanity is possible.

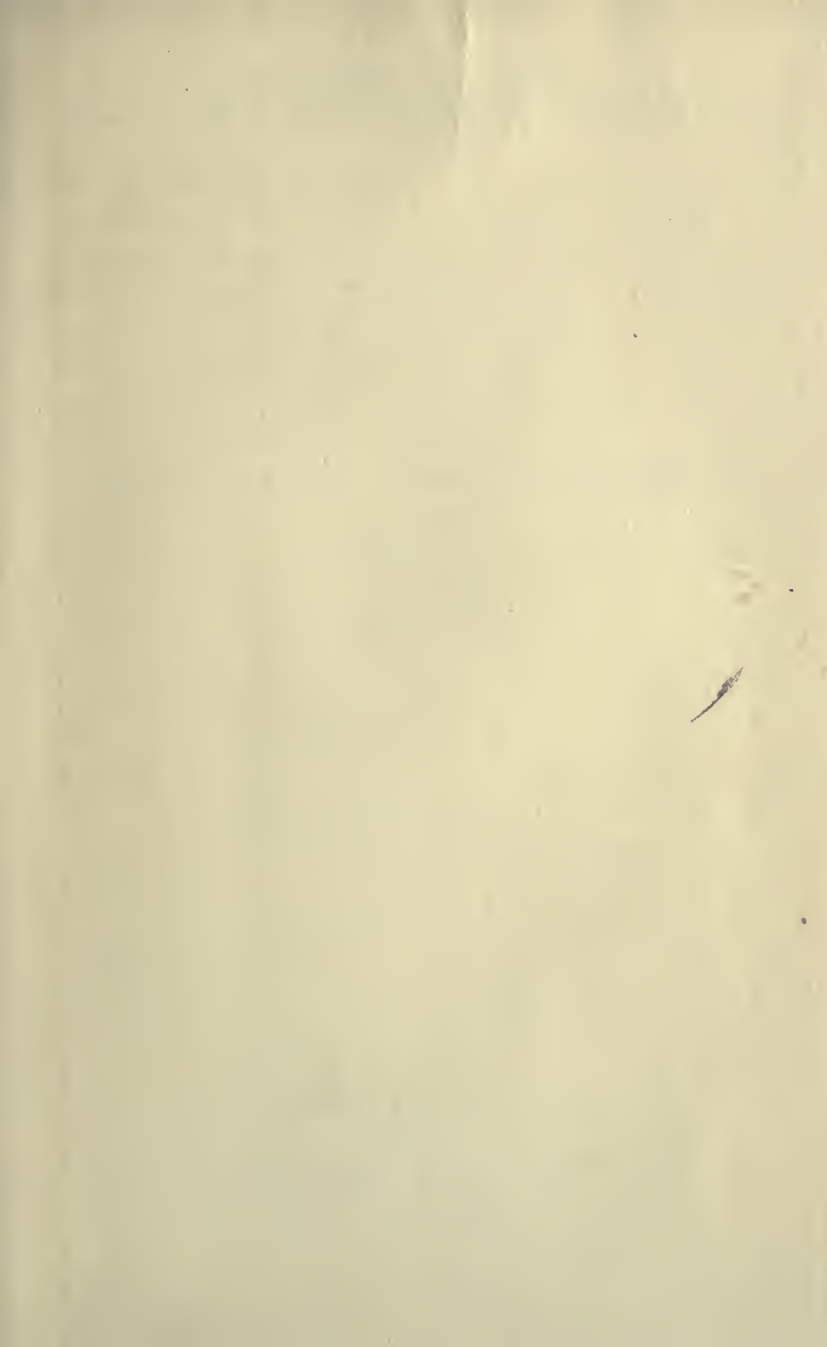
Here, again, the monogamic family is the social interest at stake. It is a conflict for altars and fires. We are told that all these results are the effect of a natural, uniform tendency in the progress of the business world, and that it is useless to combat

¹ C. R. Henderson, Proceedings Lake Placid Conference, 1902.

it. Professor Henderson reminds us that tendency to uniformity revealed by statistics may be reversed when resolute men and women, possessed of higher ideals, unite to resist it. Jacob A. Riis holds that these evils are not by a decree of fate, but are the result of positive wrong, and he dedicates his "Ten Years' War" as follows—"to the faint-hearted and those of little faith."

In like manner we call today for more faith in a way out of the slough of despond, more resolute endeavor to improve social and economic conditions. We beg the leaders of public opinion to pause before they condemn the efforts making to teach those means of social control which may build yet again a home life that will prove the nursery of good citizens and of efficient men and women with a sense of responsibility to God and man for the use they make of their lives.





EUTHENICS, OR THE SCIENCE OF CONTROLLABLE ENVIRONMENT

Human efficiency and welfare due to

Heredity (See Eugenics) and

Environment

1. Natural, cosmical—climate—
2. Natural, modified by human effort
 - Wet and dry soil
 - Waterways and forests
 - Food supplies
3. Artificial
 - Housing—clothing—sanitation

EUTHENICS—Conscious acquisition and application of scientific knowledge

- I. Science in the laboratory
 - Discovery of laws of science
 - Knowledge of cause and effect
- II. Dissemination of scientific knowledge
 - Education
- III. Application of science
 - Habits of living
 - Technique
 - Stimulus to civic improvement
 - Constructive legislation

I. Science acquired through laboratory and field research

Universities

Johns Hopkins, Clark, etc.

Research institutes

Rockefeller Institute

Carnegie Institute

Henry Phipps Institute

Sage Foundation, etc.

Sanitary Science = Application of acquired laws to

1. National welfare
 - Hook worm, Pellagra, Yellow fever, etc., in Panama,
 - The Philippines, Cuba, Porto Rico, etc.
2. Individual health of body and mind

